Department of Physiology

The University of Sydney

Report
1999-2001

December 2002

Towards a New Millenium of Continued Excellence
Academic Staff

Level E Professors

Level D - Associate Professors

Level D - Reader

Level C - Senior Lecturers

Level B - Lecturers

Pro-Vice-Chancellor
(Health Sciences)
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Head of Department Report

This report summarizes the teaching and research activities of the Department of Physiology over the period 1999-2001. The Department has major teaching responsibilities to students in the Faculties of Science, Medicine, Dentistry and Pharmacy, and also is very active in research. There are currently 13 research laboratories in the Department, studying the molecular and cellular mechanisms involved in the regulation of the major organ systems in the body, with particular strengths in molecular and cellular physiology, cardiovascular science and neuroscience. During the period 1999-2001, the Department of Physiology maintained a high level of research productivity in all of these research areas, and also introduced major new initiatives in teaching. Some of the major achievements of our staff and students during this period are highlighted below:

Research
The quantity and quality of the research within the department, as measured by the numbers of publications and citation rates, has continued at a high level during 1999-2001. The Department has also been very successful in obtaining research funding from external grant-giving agencies, in a highly competitive environment. The Department was awarded a total of $2.20 million dollars in research grants in 1999, which increased to $2.30 million in 2000, and to $3.15 million in 2001. It is very pleasing also that a number of staff and students have been awarded various prizes and honours in recognition of their achievements in research. Members of the academic staff received five awards from the National Heart Foundation, (the John and Yvonne Almgren Research Prize to Prof. David Cook in 1999 and to Prof. Max Bennett in 2000 and 2001, the Malcolm Research Prize to Prof. Max Bennett in 1999, and the Dorothy Frances Martin Research Award to Prof. Roger Dampney in 2000). Furthermore, Prof. David Cook was awarded the Australian Physiological and Pharmacological Society (APPS)/Physiological Society (UK) Prize Lectureship in 1999, Prof Max Bennett the Cade Lecture in 1999, Prof. Roger Dampney was the APPS Lecturer in 2000, and Prof. David Allen gave the Graham Mainwood Memorial Lecture at the University of Ottawa in 2001. Prof. Max Bennett was also awarded the Burnett Medal of the Australian Academy of Science (the highest award made by the Academy) in 1999, and the Distinguished Achievement Award and Medallion of the Australian Neuroscience Society and the Tall Poppy Award for Excellence in Science from the Australian Institute for Political Science in 2001. Prof. Bennett was also appointed to a University Chair of the University of Sydney in 2001, one of only two members of the University to receive this honour. Finally, two members of the Department were made Officers of the Order of Australia – Prof. Ann Sefton (in 2000) for her contributions to physiology and medical education, and Prof. Max Bennett (in 2001) for his contributions to neuroscience.

Our postgraduate and Honours students make an enormous contribution to the research work of the Department. During the period 1999-2001, several of them received prizes and awards. David Adams received three awards – prize for the best oral presentation at the Annual Scientific Meeting of the Australian Society for Medical Research in 1999, Young Investigator Award for the best oral presentation at the Annual Scientific Meeting of the High Blood Pressure Research Council of Australia in 1999, and Pfizer Award for best student presentation at the Lorne Genome Conference in 2001. Three other students also received awards for the best oral presentation by a student at various conferences – Ainsley Marsh and Louise van der Weyden (joint winners of the Aventis-Pharma Young Investigator Award at the Annual Meeting of the High Blood Pressure Research Council of Australia in 2000), Jason Potas (Istvan Tork Prize at the Annual Meeting of the Australian Neuroscience Society in 2001) and Ritu Gupta (Kumar award at the Annual Scientific Meeting of the Mutagenes and Experimental Pathology Society in 2001).

Teaching
There were three major new initiatives in undergraduate teaching during 1999-2001. First, new Intermediate 8 credit point Physiology units of study were introduced in 2000, largely as a result of the work of Dr Miriam Frommer, the Co-ordinator for these units. A feature of these new units is a problem-based learning component, which has proven to be very popular with students. Secondly, members of the Department played a major role in the development of a series of new multidisciplinary units of study in the Second Year of the Bachelor of Medical Science degree. In particular, Ms Francoise Janod-Groves has played a key role in co-ordinating the introduction of this new course. Finally, a new Third Year unit of study, Human Cellular Physiology, was developed by a committee chaired by Dr Bill Phillips, and was available to students from the first semester of 2002.

The Department also offers, together with the Department of Anatomy and Histology, Third Year units of study in Neuroscience in both semesters. In the last three years Advanced courses in all the Physiology and Neuroscience senior units of study have also been available to qualified students. These Advanced courses give Third Year students the opportunity to participate in projects in the Department’s research laboratories. This has led to an increasing number of students continuing on to Honours courses in Physiology, and also is expected to lead to an increasing demand for postgraduate study within the Department. It was particularly pleasing that, in 2001, 16 students completed the Physiology Honours course, and seven of these graduates received Australian Postgraduate Awards to enable them to enter PhD programs within the Department.
School of Biomedical Sciences

In 2001, the School of Biomedical Sciences (SBS) was established within the Faculty of Medicine. The Department of Physiology is part of the SBS, together with the other biomedical departments in the Faculty of Medicine (Anatomy & Histology, Infectious Diseases, Pathology, and Pharmacology). The School of Molecular and Microbial Biosciences is also part of the SBS, although it also retains its status within the Faculty of Science. The SBS operates under a charter which preserves the departmental structure of the SBS while at the same time enhancing the opportunities for collaborative efforts within the school in research and teaching.

The Anderson Stuart Building

There have been significant building works within the Anderson Stuart building over the last three years that have resulted in both new research facilities within the Department as well as an improvement in the quality of the public areas in the building. Funding was provided by the University, Faculty and Department to create new research space within the Neurobiology Laboratory. In addition, with funding from the College of Health Sciences, the “Physiology corridor” on the eastern side of the Anderson Stuart building has been improved, which has greatly enhanced its appearance. There is now a display cabinet within this corridor which displays photographs of all staff and research students within the Department, together with brief descriptions of the Department’s research activities. Improvements to the Anderson Stuart courtyard and the immediately surrounding corridors will be completed in 2002.

One particularly important development is the establishment of the Molecular Biology Laboratory on the ground floor of the Anderson Stuart building. This facility is available to all members of the Institute for Biomedical Research (IBR), which includes research staff and students within the Anderson Stuart building as well as other groups within the School of Biomedical Sciences. This laboratory is supervised on behalf of the IBR by Dr Neal Williams, who oversees the facilities as well as providing training in molecular biological methods to research staff and students. This facility has become increasingly valuable for the activities of many research laboratories within the Department as well as the IBR as a whole.

Retirement of academic staff

During the period covered by this report, two long-standing and greatly valued members of the Department retired – Prof. Ann Sefton and Assoc. Prof. Dave Davey. The contribution of both of these colleagues to the Department, Faculty and University is detailed elsewhere in this report, but I would like to note here on behalf of the Department our gratitude for their great service to Physiology. I am personally particularly grateful to both of them for the advice and help they have given me during the time that I have been Head of Department. Both continue to be members of the Department – Ann Sefton as a Professor Emeritus and Dave Davey as an Honorary Associate.

New appointments and promotions

Dr Meloni Muir was appointed during 2001 to a fixed-term part-time Lectureship in the Department, with the appointment to begin in January 2002. Dr Elaine Mulcahy, a Research Fellow in the Centre for the Mind, was also given a conjoint appointment within the Department in 2001. I am also very pleased to report that several members of the Department were promoted during the period 1999-2001: Paul Martin to Associate Professor and Dr Lynne Cottee and Dr Miriam Frommer to Senior Lecturer.

Future directions

The Department of Physiology has well recognised research strengths in cellular and molecular physiology, cardiovascular science and neuroscience. The Department is very well placed to take advantage of the rapid advances that have been made in determining the human genome, by applying these new discoveries to a much deeper understanding of the function of the human body, from the cellular level up to the level of whole systems. The future therefore offers exciting challenges, both in our research and teaching activities.

The academic staff and research students have received great support from the administrative, technical, and computing staff within the Department. I thank all staff and students in the Department for the success that has been achieved in research and teaching over the last three years.

Roger Dampney
March 2002
The Department of Physiology Staff List
as at early 2002

Professors (Level E Academics)
Maxwell Richard Bennett, AO, BE MSc PhD Melb DSc, FAA
  Appointed 1983
David Grant Allen, BSc MB BS PhD Lond. Appointed 1989
Roger AL Dampney, PhD DSc. Appointed 1997
David I Cook, BSc(Med) MB BS MD FRACP (the University of Sydney Medical Foundation Fellow).
  Appointed 1997
Brian J Morris, BSc Adel PhD Monash DSc. Appointed 1999

Professor not on establishment
John Atherton Young, AO, BSc(Path) MD BS DSc Qld, FRACP
  FAA. Appointed 1976

Emeritus Professors
William Burke, BSc PhD Lond
Ann E Sefton, AO, BSc(Med) MB BS PhD DSc

Reader (Level D Academic)
Joseph FY Hoh, PhD ANU BSc(Med) MB BS DSc

Associate Professors (Level D Academics)
Simon Carlile, BSc PhD (conjoint appointment in the Chancellory as Assistant Pro-Vice Chancellor (IT))
Paul R Martin, BSc PhD
Rebecca S Mason, MB BS PhD
Christopher O’Neill, BSc PhD N’cle(NSW) (Royal North Shore Hospital)
Paul Pilowsky, BMedSc BMBS PhD Flin (Principal Research Fellow, NHMRC)

Senior Lecturers (Level C Academics)
Lynne J Cottee, BSc PhD
Miriam Frommer, BSc PhD Lond
William D Phillips, BSc PhD

Lecturers (Level B Academics)
Margot Day, BSc PhD
Francoise Janod-Groves, BSc NSWIT MApplSc UTS
Ann Goodchild, BSc PhD
Meloni M Muir, BSc Purdue PhD McG
Irene Schneider, BSc UNSW MSc(Prelim)

Visiting Professor
Martin Johnson MA PhD Camb

Honorary Associate Professors
David F Davey, BSc MScMed PhD McG
Barry S Gow, MDS PhD, FRACDS

Honorary Senior Lecturer
Annick Ansselin, BA Macq MSc PhD

Honorary Associates
David le Couture
Peter Maitz
Ainsley Marsh, BAdv Sc
Elaine Mulcahy, PhD
William Wang, MM BS
Louise van der Weyden BSc UTS PhD

Research Fellows
Anuwat Dinudom, MSc PhD – Medical Foundation – NHMRC,
  R.D. Wright Fellow
Philip Poronnik, BSc PhD – ARC

Postdoctoral Research Fellows
Oliver Behrend
Yutaka Hosoda BSc PhD
Craig Jin BSc Stanford MSc Caltech PhD
Guo Jun Liu MD Changchun, China PhD Gifu, Japan
Andrea Markus BSc PhD Mainz (Germany)
Xiaohui Xiao, MD PhD Beijing Med Uni

Senior Research Officers
Chris Balnave, BSc PhD – NHMRC
Ulrike Grunert, BSc PhD Frankfurt
Jouji Horiuchi, BSc PhD Yamanashi
Lele Jiang, Beng MSc Beijing PhD
Permsak Komwatana, MS MCV PhD UVa
Yue-Kun Ju, MD Xian PhD ANU
Elizabeth Millar, BSc
Anne Nelson, BSc PhD – NHMRC
Angeles Sanchez-Perez, BSc PhD Salamanca – NHMRC
Qi-Jian Sun, BSc China PhD ANU
Nicola Winston, BSc Lond PhD Cant – NHMRC

Research Officers
Wenbing Huang
Qun Li, MM Shanghai PhD
William Lin BSc China MSc China MSc PhD
Christine Lucas, BSc PhD – NHMRC
Eliza Whiteside, BSc PhD QUT

Research Assistants
Anandhi Anandan, BSc Bharathiagar Univ
Paul Dickens, BAdvSc
Ann Novello Hogarth, BSc PhD NUS
Suzanne Killinger, BMedSc
Ana Lara, BSc Unie Republic
Helena Mangs MSc Karolinskaist, Sweden, Lic
Lauren O’Mullane, BBiomedSc W’gong
Anne Turnbull, BMedSc
Leonie Wood
CJ Martin Fellows
David Adams BSc UTS PhD (Sanger Centre UK)
Sam Solomon BBiotech Flinders PhD

PhD Candidates in 2002
Adam Benjafield BMedSc
Virginia Best BMedSc
Duncan Blair BSc
Esther Blessing BSc
Omar Chami BSc
Tricia Chan BMedSc
Vasitharan Chandrakanthan BMedSc
Victoria Cogger
Ben Dickson BMedSc
Luke Eckersley BMedSc
Ritu Gupta MB BS
Haibi Hu MB BS SUMS MMed
Patricia Jusuf BSc
Ruben Kurilowich BMedSc
Johann Leung BE (Elec)
Aiqing Li
Ruby Lin BSc MSc Canterbury
Mark Mariathas
Michiko Mirams MSc
Terence Moopanar BMedSc
Isabel Pons-Meneghetti
Jason Potas BMedSc
Imran Rashid BMedSc
Valin Reja BSc UWS
Hannah Rhee BMedSc
Maryam Seyedabadi
Javed Sheriff BMedSc
Dharshi Siva B Eng UWS
Deborah Springell BSc
Thomas Stojanov B Agr Sci Agricultural Univ, Czech Rep MVSc
Todd Verner BMedSc
Andrew White MB BS
Jeremy Young
Wendy Zhong BSc

MMed candidate in 2002
Yan Li

BMedSc(Hons) candidates in 2002
Andrea Abdipranoto
Natalie Costin
William Dobbie
Ksenia Katyk
Natasha Kumar
Sammy Lee
Alice Lim
Alexander Nicholls
James Padley
Peter Tan
Gordon Wong

BSc(Hons) candidates in 2002
Michele Cavazzini
Stanislaw Djambazov
Marius Jigau
Jawad Saab
Brett Szmajda

Research Laboratory Staff
Judith O'Neill, RN BA (Health Sci-Nursing) CS
tur

Department Manager
Louise Loomes, BA GradDipAcctg

Administrative Officers
Neville Dabboussy
Louise Harrison BED DipAcctg
Lali Jo Jacob BA E
c
omics, MBA
David Lawrey Bsc/LLB JCU, BVA

Class Laboratory Staff
John F Cossey, BTC STC – Senior Technical Officer (in-charge)
Adel Mitry, BVSc Cairo ACC STC – Senior Technical Officer

Computing Staff
John WA Dodson, HND Lond MIE I Eng – Computer Network Manager
Li Jin
Joseph Pridham

Electronics Workshop Staff
Vincent HW Cheung, HND H K Polytechnic CEI Part 2 UK – Senior Technical Officer
Laboratory Personnel 1999-2001

Muscle Cell Function Laboratory

David G Allen  Professor (in-charge)  University  1989-
Yue-kun Ju  Senior Research Officer  NHMRC  1996-
Xiao-Hui Xiao  Research Officer  NHF  1997-
Akram Kabbara  Research Officer  NHMRC  1998-9
Chris Balnave  Research Officer  NHMRC  1999-
Wen-Bing Huang  Research Assistant  NHMRC  2001-
Sylvia Romero  BMedSc(Hons) student (0.5)  1999
Viet Nam  BMedSc(Hons) student  2000
Terence Moopanar  BMedSc(Hons) student  2001
Edward Kitzana  PhD student (0.2)  2001

Total effective full-time personnel:  1999: 5.5  2000: 5.0  2001: 6.2

Neurobiology Laboratory

Max Bennett  Professor (in-charge)  University  1969-
Dr Les Farnell  Research Officer (0.5)  ARC  1994-
Dr Guo Jun Liu  Research Officer  NHMRC  2001-
Dr Catherine Luxford  Research Officer  NHMRC  2000
Dr Yunxia Lily Zuo  Researcher -  1999
Keith Brain  PhD student  APA  1994-99
Guo Hua Charles Li  PhD student  IPRS, IPA  1998-01
Greg Macleod  Research Assistant/  NHMRC  1991-99

PhD student
Research Officer  2000

Yong Qi William Lin  Res Asst/ Officer(F/T)  NHMRC  1990-
PhD student (0.5)  1994-
Rowena Henery  PhD student  NHMRC  1995-2000
Duncan Blair  PhD student  ARC  1998-
Jennifer Kears  PhD student (co-sup. Mathematics) -  1994-00
Greg Lemon  Res Asst/PhD student (co-sup. Mathematics) -  1999-01
Joshua Van Kleef  PhD student (co-sup. Mathematics) -  1999-01
Vikram Khurana  Research (0.5) -  1998-00
Jennifer Brockhausen  Research Assistant (0.6 in ’01)  NHF  2000-
Paul Dickens  Research Assistant  NHMRC  1999-
Nicholas Halmagyi  Research Assistant  NHMRC  1999
Chris Holding  Research Assistant  NHF  1999
Jennifer Lynch  Research Assistant  NHF  1999
Craig Myers  Research Assistant  NHMRC  2000
Suzie O’Connor  Research Assistant  NHMRC  1998-99
Viara Van Raad  Research Assistant  NHMRC  2000
Leenie Wood  Research Assistant  NHMRC  2001-
Penelope Hill  BMedSc(Hons) student -  2001
Imran Rashid  BMedSc(Hons) student -  2001
Jennifer Cantrill  Admin Asst (0.2)  ARC  1982-

Total effective full-time personnel:  1999: 15.2  2000: 13.2  2001: 10.8
Brain Research Laboratory

W (Liam) Burke  Emeritus Professor and “Retired” (87-) 1956-
(Also Hon Assoc in Dept of Anatomy & Histology)

Auditory Neuroscience Laboratory

Simon Carlile  Associate Professor (0.25) 1993-
(Asst Pro-Vice-Chancellor (IT) 0.75; 1998)

Oliver Behrend  Postdoctoral Fellow  Natural Scientists Leopoldina 2000-02

Craig Jin  PhD  Dora Lush (NHMRC) (95-00) 1995-
Postdoctoral Fellow Garnet Passe and Rodney Williams (00-01)

F Andre van Schaik  Postdoctoral Fellow Garnet Passe and Rodney Williams 1998-99

Roger Coles  Senior Lecturer University 1998-99

Johahn Leung  PhD student DSTO 1997-

Rubin Kuriłowich  PhD student (GMP/PhD) 1997-

Virginia Best  BMedSc (Hons) student 1999
PhD student APA 2000-

Ben Dickson  BSc (Hons) student 2001
PhD student 2002-

Anne Horganth  Research Assistant ARC 2001-

Anna Corderoy  Research Assistant ARC 1997-00 Viara van Raad  Research Assistant Faculty of Medicine 1998-99

Paul Evans  Research Assistant (0.5) ARC 2001

Brendon Booth  Research Assistant (0.5) NHMRC 1999

Ana Lara  Research Assistant (0.5) NHMRC 1999

Anandhi Anandan  Laboratory Assistant NHMRC 1997-2001


Epithelial Transport Laboratory

David I Cook  Professor of Cellular Physiology University 1999-

John A Young  Professor of Physiology University 1999-
(Pro Vice Chancellor Health Sciences)

Anuwat Dinudom  R D Wright Fellow NHMRC 1999-

Permsak Komwatana  Senior Research Officer NHMRC 1999-

Phillip Poronnik  Sesquicentenary Fellow University 1999-2000

Angeles Sanchez-Perez  Senior Research Officer (0.5) NHMRC 1999-

Andrew H Beesley  Postdoctoral Fellow Medical Foundation 1999-2001

Yutaka Hosoda  Postdoctoral Fellow NHMRC 2000-

Lauren M O’Mullane  Research Assistant Medical Foundation 1999-

Kristie Frawley  Research Assistant Medical Foundation 1999

David van Bockel  Research Assistant Medical Foundation 2000-01

Michelle C Cummins  PhD student 1999-

Haibi Hu  MMedSc student 2000-01

Siah Kim  BMedSc (Hons) student 2000
Karl Kunzelmann Visiting Professor 1999
Eberhard Frömter Visiting Professor 2000-01

*Total effective full-time personnel:* 1999: 9.5 2000: 11.0 2001: 9.5

**Cardiovascular Neuroscience Laboratory**

Roger A L Dampney Professor (in-charge) University 1977-
Jouji Horiuchi Senior Research Officer NHMRC 2001-
Jaimie W Polson Research Officer NHMRC (96-00) 1987-2000
Patrick D Potts Research Officer NHMRC (96-00) 1993-99
Tatsuya Tagawa Research Officer NHMRC (96-00) 1997-99
Marco A P Fontes Research Fellow CNDCT Brazil and NHF (98-00) 1999-01
Suzanne Killinger Research Assistant NHMRC (01-) 2001-
Jason Potas PhD student APA 2000-
Sarah-Jane Cavanagh BMedSc(Hons) student 1999
Ainsley J Marsh BSc(Adv)(Hons) student 2000
Mohammed J Sheriff BMedSc(Hons) student 2001

*Total effective full-time personnel:* 1999: 6.0 2000: 5.0 2001: 5.0

**Developmental Physiology Laboratory**

Margot L Day Lecturer (in-charge) University 1999-
Nicola J Winston Senior Research Officer NHMRC 1999-
Isabel Pons-Meneghetti PhD student ARC 2001-
Alice Lim BMedSc vacation student (3 months) 2001
Dinukshi Fernando BMedSc vacation student (3 months) 2001
Simon Crouch Research Assistant ARC 2001

*Total effective full-time personnel:* 1999: 2.0 2000: 2.0 2001: 3.0

**Muscle Research Laboratory**

Joseph FY Hoh Reader (0.5) University 1971–
Christine CA Lucas Research Officer NHMRC (97-01) 1991-
Lucia Kang Research Officer (0.4) ARC 1998-00
Zhao Bo Li Visiting Scholar ARC 1998-00
Michael KH Hsu PhD student (94-99) Fac Med sch’shp (96-98) 1992-99
Lynee Turnbull PhD student (0.5, Macquarie ) 1994-00
Wendy WH Zhong PhD student (99-) Fac Med sch’shp (00-) 1998-
Hannah SM Rhee PhD student (01-) 1999-
Mark K Mariathas PhD student (00-) 1999-
Sol Han BMedSc(Hons) student 2001

*Total effective full-time personnel:* 1999: 9.0 2000: 8.0 2001: 6.0
### Vision Laboratory

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul R Martin</td>
<td>Associate Professor (in-charge)</td>
<td>University</td>
<td>1991-02</td>
</tr>
<tr>
<td>Ulrike Grünerter</td>
<td>Senior Lecturer/SEN Research Officer</td>
<td>NHMRC</td>
<td>1998-02</td>
</tr>
<tr>
<td>Ana Lara</td>
<td>Research Assistant</td>
<td>NHMRC</td>
<td>1997-02</td>
</tr>
<tr>
<td>Petra Mross</td>
<td>Research Assistant</td>
<td>NHMR</td>
<td>2000-01</td>
</tr>
<tr>
<td>Tricia Chan</td>
<td>Res Assit/PhD</td>
<td>NHMRC</td>
<td>1995-01</td>
</tr>
<tr>
<td>Maziar Hashimi-Nezhad</td>
<td>PhD student</td>
<td>ARC</td>
<td>2001-</td>
</tr>
<tr>
<td>Bin Lin</td>
<td>PhD student</td>
<td>OPRS/OPA</td>
<td>1998-01</td>
</tr>
<tr>
<td>Sam Solomon</td>
<td>PhD student</td>
<td>University</td>
<td>1997-01</td>
</tr>
<tr>
<td>Andrew White</td>
<td>MBB8/PhD student</td>
<td>University</td>
<td>1997-01</td>
</tr>
<tr>
<td>Esther Blessing</td>
<td>BSc(Hons) student</td>
<td></td>
<td>2001-</td>
</tr>
<tr>
<td>Patricia Jusuf</td>
<td>BSc(Hons) student</td>
<td>APA</td>
<td>2001-</td>
</tr>
<tr>
<td></td>
<td>PhD student (02-)</td>
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**Total effective full-time personnel:**

- 1999: 8.0
- 2000: 8.0
- 2001: 11.0

### Skin & Bone Laboratory (Endocrine Regulation)

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>Rebecca S Mason</td>
<td>Associate Professor (in-charge)</td>
<td>University</td>
<td>1988-</td>
</tr>
<tr>
<td>Anne E Nelson</td>
<td>Research Officer</td>
<td>NHMRC</td>
<td>1998-9</td>
</tr>
<tr>
<td></td>
<td>Senior Research Officer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meloni M Muir</td>
<td>ARC Postdoctoral Fellow (Ind)</td>
<td>ARC</td>
<td>1999-</td>
</tr>
<tr>
<td>Ritu Gupta</td>
<td>PhD student (01-)</td>
<td></td>
<td>2000-</td>
</tr>
<tr>
<td>Michiko Mirams</td>
<td>PhD student</td>
<td>GlaxoSmithKline</td>
<td>2000-</td>
</tr>
<tr>
<td></td>
<td>PhD student (02-)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sutharshani Sivagurunathan</td>
<td>Research Assistant</td>
<td>ARC</td>
<td>1999-00</td>
</tr>
<tr>
<td>(aka Dharshi Siva)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Erin Martin</td>
<td>Research Assistant (0.3 from 00-)</td>
<td>NHMRC</td>
<td>1999-01</td>
</tr>
<tr>
<td>Daisy Dai</td>
<td>BMedSc(Hons) student</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>Michaela Smith</td>
<td>USydMP Options term student</td>
<td></td>
<td>2000</td>
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</table>

**Total effective full-time personnel:**

- 1999: 5.3
- 2000: 7.3
- 2001: 6.3

### Basic & Clinical Genomics Laboratory

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>Years</th>
</tr>
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<tbody>
<tr>
<td>Brian J Morris</td>
<td>Professor</td>
<td>University</td>
<td>1978-</td>
</tr>
<tr>
<td>Yi-kun Lou</td>
<td>Research Officer</td>
<td>NHMRC (97–99)</td>
<td>1988–99</td>
</tr>
<tr>
<td>M Andrea Markus</td>
<td>Research Officer (0.6)</td>
<td>ARC</td>
<td>1998-</td>
</tr>
<tr>
<td>Helena Mangs</td>
<td>Molecular Biologist/RA</td>
<td>NHMRC</td>
<td>2001-</td>
</tr>
<tr>
<td>David J Adams</td>
<td>PhD student</td>
<td>Fac Med sch’shp (98–)</td>
<td>1997–01</td>
</tr>
<tr>
<td>Ruby CY Lin</td>
<td>PhD student</td>
<td>APA</td>
<td>1998–02</td>
</tr>
<tr>
<td>Adam V Benjafield</td>
<td>PhD student (99–)</td>
<td>APA</td>
<td>1998-</td>
</tr>
<tr>
<td>William YS Wang</td>
<td>MM student (0.2) (98-00)</td>
<td>Hon Assoc (01–)</td>
<td>1995–00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Craig A Plambeck</td>
<td>BSc(Hons) student</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>Judith O’Neill</td>
<td>Nursing sister/Venepuncturist (0.1)</td>
<td>NHMRC</td>
<td>1996-</td>
</tr>
<tr>
<td>Lilian J Morris</td>
<td>General Assistant (0.2)</td>
<td></td>
<td>2001-</td>
</tr>
</tbody>
</table>

**Total effective full-time personnel:**

- 1999: 6.7
- 2000: 6.7
- 2001: 5.9
Human Reproduction Unit

Christopher O’Neill  Associate Professor  NSH  1999-01
Michael Emerson  Postdoctoral Fellow  Grant  1999-01
Aviv Cahana  Postdoctoral Fellow  NHMRC  2000-01
David Lu  Postdoctoral Fellow  NHMRC  2000-01
Eliza Whiteside  Postdoctoral Research Fellow  NHMRC  2001-
Omar Chami  PhD student  1999-01
Tomas Stojanov  PhD student  1999-00
Aiqing Li  PhD student  2001
Angelique Megavand  PhD student  2000-01
Yan Li  MSc student  2001
Roslyn Bathgate  BSc(Hons) student  1999
Belinda Askey  BSc(Hons) student  2001
Vashe Chandrakanthan  BMedSc(Hons) student  2001
Lara Lombardi  BMedSc(Hons) student  2001
Total effective full-time personnel: 1999: 5.0  2000: 7.0  2001: 12.0

Molecular Neuroscience Laboratory

William D Phillips  Senior Lecturer  University  1999-2001
Shi Hong Yang  Research Assistant  Grant  1999-2000
Anne Turnbull  Research Assistant  Grant (Faculty)  2000-02
Hong Han  PhD student  AusAid Sch’shp  1999
Simon (Xun) Liang  PhD student  Fac Med Sch’shp  1999-00
Charbal Moussa  BMEdSc(Hons) student  1999
Total effective full-time personnel: 1999: 5.0  2000: 3.0  2001: 2.0

Hypertension & Stroke Research Laboratory

Paul Pilowsky  Associate Professor, NHMRC Principal Research Fellow  University  1996-
John Chalmers  Professor  University  1996-
Michael Morgan  Professor  University  2001-
Rob Berkowitz  Associate Professor  RCH, Melbourne  1996-
Takashi Miyawaki  Visiting Academic  NSHRF  2000-01
Ann Goodchild  Lecturer/Senior Research Officer  NHMRC  1997-
Qi-Jian Sun  Senior Research Officer  GPRWF  1997-
Qun Li  Research Officer  NHMRC  2001-
Elizabeth Millar  Senior Research Assistant  NHMRC  1997-
John Makeham  PhD student  Andrew Olle Res. Sch’shp  2000-
Bart van Deurzen  Visiting Academic, MEng  NSHRF  1998-00
Tina Stasinopoulos  PhD student  APA  1998-
Valin Reja  PhD student  APA  2000-
Maryam Seyedabadi  PhD student/Dental Program  Dent Fac Res Sch’shp  2000-
Ben Moran  BMedSc(Hons) student  2001
Laura Castelnoble  MSc student  2001
Deborah Springell  BMedSc(Hons) student  2001
Jorgen Ferguson  BMedSc(Hons) student  2001
Todd Verner  BMedSc(Hons) student  2001
Diana Peck  Personal Assistant  RNSH  1998-
Research Activities of Individual Laboratories

**Muscle Cell Function Laboratory**
David G Allen

The main focus of the Laboratory is the regulation of ions in muscle tissues and the influence of ionic changes on muscle function. Work on the pacemaker cells with Dr Ju has shown that the Na/Ca exchanger provides a current which influences firing rate. In recent work we have explored the effects of metabolic inhibition on calcium handling and determined the effects of extracellular ATP on the firing rate of pacemaker cells. In skeletal muscle Dr Kabbara established a novel method of measuring calcium in the sarcoplasmic reticulum of skeletal muscle and used this method to establish that decline of calcium in these stores contributes to muscle fatigue. Studies of the ischaemic heart with Dr Xiao have confirmed the role of the Na⁺/H⁺ exchanger in causing damage to the heart on reperfusion and recent work has explored the regulation of this exchanger by endogenously produced angiotensin and by AMP-dependent kinases. Dr Balnave is studying calcium regulation in rat and mouse cardiac myocytes during ischaemia.

**Neurobiology Laboratory**
Maxwell R Bennett

It has been thought until recently that the normal functioning of the synaptic connections in the nervous system that underlie the psychological attributes of humans (as in memory, perception and emotional state) only change relatively slowly. Clearly when the functioning of these synapses goes awry, as in stroke, dementia and psychotic disorders, there may be some recovery over months or none at all. We have recently discovered that synapses may change their properties and connections over minutes, and that this involves the dynamic activity of the enveloping glial cells. Furthermore, blood capillaries play a major role in the maintenance of synaptic activity. This Laboratory is therefore investigating the role of glial cells and capillaries in maintaining and instigating the dynamic properties of synapse associated with diseased states of the nervous system.

**Brain Research Laboratory**
W (Liam) Burke

Research involves the effect of retinal lesions on the receptive field properties of cells in area 17 of the cat. We found that the cells in the deafferented region acquire new, ectopic receptive fields. When the lesion is made in the adult animal the effect of the new receptive field is weak, but when the lesion is made in the kitten the effect becomes strong. Another area is the importance of the Y input to the superior colliculus in the cat. Removal of the Y input by pressure block of the optic nerve shows that many cells in the superior colliculus receive both a Y input and a W input, contrary to previous ideas. Further work involved regional visual acuity in the fovea and parafovea in the human in relation to macular holes. The time course of development of a macular hole was plotted. The two time courses were not identical, suggesting that the pressure block is not due solely to demyelination.

**Auditory Neuroscience Laboratory**
Simon Carlile

Over the last three years research has continued to range over four interlocking areas. (1) Psychophysical and (2) modeling studies have demonstrated that, despite theoretical expectations to the contrary, the monaural cues to a sounds location in space produced by the spectral filtering of the outer ear, play a dominant role in determining the apparent location of a sound in space. There is strong evidence that the difference in the intensity levels in neighboring frequency bands can drive the perception of the location of a sound. However, in contrast to the localization of single sound sources, recent psychophysical and modeling work has indicated that when the auditory system has to discriminate two sources with similar spectral content then the binaural cues are critical to perceptual separation. To further elucidate the role of spectral analysis, localization performance has also been examined in conditions of high stimulus spectral variability and under conditions of simulated reduced spectral sensitivity (cochlear hearing loss). In both cases, the stability and quality of the spectral information is shown to have a profound effect on the localization performance. There have also been a range of studies examining the sensitivity of the auditory system to moving stimuli. (3) Bioacoustic studies of the population variations in the filtering properties of the outer ear have been also completed for human and Guinea pigs. The human studies have revealed a mapping between the ear morphology and the acoustics and the animal studies have confirmed that the inter-individual variations observed in human populations that arrises as a result of variations in ear morphology, also exist in the Guinea pig population. This necessitates the generation of individualized virtual space in animal studies employing virtual space stimulation. Consequently, (4) neurophysiological studies of the encoding of auditory in the mid brain have employed both virtual and free field stimuli and demonstrated that even with individualized high fidelity virtual space stimuli, only about 75% of the neurons studied indicate a close correspondence in their responses to the two stimulus paradigms. The virtual space stimulus is now being employed to examine the potential role of adaptation in shaping the recorded spatial receptive fields.

**Epithelial Transport Laboratory**
David I Cook

In the past three years, the Laboratory has continued its studies on the regulation of epithelial Na⁺ channels and on the mechanisms of Ca²⁺ signalling in epithelial cells. In the field of Na⁺ channel regulation, the Laboratory has found that the ubiquitin protein ligase, Nedd4-2, is a potential regulator of epithelial Na⁺ channels and has defined the mechanisms by which it, and by which the closely related protein, Nedd4, interact with Na⁺ channels. In this period, the Laboratory also succeeded in demonstrating that feedback regulation of
membrane transporters by intracellular Na+-is not limited to epithelial channels, but is also observed with the Na+-H+ exchanger, NHE1. Furthermore, the laboratory demonstrated that influenza virus triggers the rapid inactivation of epithelial Na+ channels thus providing an explanation for the fluid accumulation in the respiratory tract that accompanies influenza infections. In the field of Ca2+ signalling, the laboratory has used methods based on replication-deficient adenoviruses to demonstrate that muscarinic, M3, receptors and purinergic, P2Y2, receptors in epithelial cells, despite both activating phospholipase Cβ via pertussis toxin-insensitive G proteins, do so by different mechanisms. P2Y2 receptors acting via G protein αβγ subunits whereas M3 receptors act via G protein βγ subunits. The Laboratory further extended these techniques by developing adenoviruses expressing selective antisense constructs that can be used to identify the G proteins that mediate the effects of these two receptor types on phospholipase Cβ activity.

Cardiovascular Neuroscience Laboratory
Roger AL Dampney

The Lab studies the brain mechanisms that control the circulation. The current main research interests of the Laboratory are the role of the hypothalamus and the medulla oblongata in the short-term and long-term regulation of blood pressure and sympathetic vasomotor activity. Previous research in the laboratory clearly established the importance of a group of neurons in the rostral ventrolateral medulla (RVLM) in the regulation of sympathetic vasomotor activity. In the last three years, a major focus of interest is the functional organization and pharmacological properties of neural pathways from the hypothalamus to the RVLM and spinal cord. In addition, we are particularly interested in the mechanisms by which certain hormones (e.g., angiotensin II and leptin) act on the hypothalamus to influence sympathetic activity and blood pressure. Since the hypothalamus is a key brain region regulating the cardiovascular system as part of more generalized responses to environmental stimuli (e.g., changes in salt or water intake, or temperature), we hope this research will lead to a better definition of the neural pathways and mechanisms that subserve this regulation.

Developmental Physiology Laboratory
Margot L Day

The research of the Lab is focussed on the timing of developmental processes in the pre-implantation embryo. The Lab has been studying the role of K+ channels during the cell cycle and development. It was found that the activity of a large-conductance K+ channel was regulated by the cell cycle in the early mouse embryo. These variations in channel activity continue in the absence of protein synthesis and the nucleus and are thus regulated by a novel cytoplasmic clock. This clock was, however, not completely uninfluenced by the nuclear cell cycle clock. Arresting the nuclear cell cycle either in mitosis or in S/G2 phase resulted in persistence of K+ channel activity. The Lab has also demonstrated that members of the eag family are expressed in the early mouse embryo and that antisense knockout of the expression of eag1 prevents cleavage of embryos. Other studies were conducted on expression of chloride channels during development, the regulation of cytosolic pH in the early embryo (in collaboration with Prof DI Cook) and the expression and role of genes involved in the circadian rhythm in the embryo and in reproductive tissues.

Muscle Research Laboratory
Joseph FY Hoh

The Lab investigated the pattern of expression of myosin heavy chain (MyHC) genes in craniofacial muscles and their functional significance. Using a panel of highly specific antibodies for each of 9 MyHCs we characterized the very complex pattern expressed in extraocular (EO) and laryngeal muscle fibres. The Lab found fibres that coexpress 2 or more MyHCs in the same fibre. The EO muscle also contains fibres in which the MyHC composition varies along the length, and a function has been suggested for this bizarre situation. The Lab has also been correlating MyHC and light chain compositions of single fibres with mechanical characteristics. EO fibres showed a dynamic characteristic that is continuously variable over a wide range due to the overlapping expression of 6 MyHCs. Masticatory light chains in cat jaw slow fibres greatly increased fibre kinetics relative to limb slow fibres with slow light chains. The Lab has also shown that fibres in laryngeal muscle expressing EO/2B MyHCs can be transformed into those expression IIX MyHC during reinnervation, thereby showing for the first time that laryngeal muscle fibres are subject to neural regulation. The Lab contributed to the comparative physiology of marsupial cardiac and skeletal muscles. We showed that marsupial skeletal muscle fibre types can be classified into 4 types essentially as in eutherians, that their cardiac myosins are also sensitive to thyroid hormones, and that jaw muscles in kangaroos express α-cardiac MyHC, in contrast to eutherian herbivores that express slow MyHC.

Vision Laboratory
Paul R Martin

Research of the Lab concerns the structure and function of the visual system, with emphasis on the connections of neurons in the retina and on pathways for colour vision. Work in 1999-2001 included studies of the distribution of neurotransmitter receptors on retinal ganglion cells, analysis of the synaptic architecture of the cone pedicle in the primate retina, the demonstration of multiple parallel bipolar cell pathways in the retina of a New World monkey, the marmoset analysis of the colour selectivity of ganglion cells in the peripheral primate retina, and studies on the spatial and temporal response properties of cells in the koniocellular division of the lateral geniculate nucleus.
Skin & Bone Laboratory (Endocrine Regulation)  Rebecca S Mason

Studies in bone cells indicated that the active vitamin D hormone, 1,25-dihydroxyvitamin D enhanced anabolic estrogenic effects in bone cells, partly through an increase in estrogen receptor expression. Plant estrogens were shown to increase matrix synthesis and extend the lifespan of osteoblasts, in a similar manner to estrogens. Nitric oxide production was shown to be important in fracture repair. Some glucocorticoids were shown to exhibit large differences in potency between immune-suppressing and bone-inhibitory activities. Unusual properties of the phosphate wasting factor from oncogenic osteomalacia-causing tumour cells were established and were successfully used in the management of a patient in whom this condition was suspected. A novel phosphate wasting factor from renal cells was characterized and partially purified. Previous studies showing protection of epidermal skin cells from UV irradiation by vitamin D compounds were extended to show protection in cultured dermal fibroblasts. This protective effect was accompanied by a decrease in pyrimidine dimer formation (DNA damage) in the surviving cells treated with 1,25-dihydroxyvitamin D.

Basic & Clinical Genomics Laboratory Brian J Morris

The Lab completed a genome scan using DNA from hypertensive sibling pairs and found several genetic loci that could be linked to essential hypertension (HT). However, to get genome-wide significance more patients are now being genotyped. Initially a scan of chromosome 1 found a locus at p36.2, centered in a region containing the tumor necrosis factor receptor superfamily member 1B gene. A marker in this gene was associated with HT and even more strongly with coronary artery disease (CAD). The Lab also found a functional variant in the promoter of the inducible nitric oxide synthase (iNOS) gene that was associated with increased risk of renal, retinal and neural complications of type 2 diabetes, as well as with factors associated with heart attack risk in CAD patients. Studies in the corticotropin-induced model of HT in rats showed downregulation of iNOS and eNOS expression in kidney. Amongst many other genetic findings for a diversity of genes, the Lab implicated an amino acid substitution in the zinc finger was also solved and found to bind cyclin B1 mRNA, suggesting a role in cell cycle control and possibly explaining loss of renin expression by juxtaglomerular cells during culture as ZNF265 downregulates.

Human Reproduction Unit  Christopher O’Neill

The Lab investigates the cellular physiology of fertilization, early embryo development and embryo implantation. This knowledge is used to develop and understand better means of fertility regulation and understand the causes of defects in embryo development. Details of work for 1999-01 not supplied.

Molecular Neuroscience Laboratory  William D Phillips

Our voluntary muscles are controlled by acetylcholine receptors that, in turn, are organised into clusters at the neuromuscular synapse by a protein called rapsyn. The clustering activity of rapsyn is regulated by a tyrosine kinase called MuSK and this involves a pathway that remains unclear. In 1999-2001 the Lab investigated the mechanism by which rapsyn clusters receptors. We found that rapsyn is involved in the intracellular trafficking of newly synthesized receptors to the cell surface, leading to new questions about the roles and mechanisms of action of cytoplasmic adaptor proteins, like rapsyn, at synapses. We also defined the involvement of some of the key proteins of the presynaptic nerve terminal in the embryonic development of the neuromuscular junction. The tone of smooth muscle is organs such as the bladder and vas deferens is modulated by the activity of sympathetic nerves. One of the signalling substances that sympathetic nerve fibres release is adenosine triphosphate (ATP). During 1999-2001, we showed that ATP activates the smooth muscle cells via P2X1-type receptors that are spread over the surface of smooth muscle cells in the mouse vas deferens and bladder. We also cloned the gene for mouse P2X1 and mapped its chromosomal location.

Hypertension & Stroke Research Laboratory  Paul Pilowsky

During the period from 1999 to 2001 the group studied the mechanisms that control airways, breathing and blood pressure in normal animals and also the activation of neurons in the brainstem and spinal cord. In addition, we investigated the changes that can be seen in animals with experimental hypertension. Highlights of our work during this period include the demonstration that GABA receptors in the spinal cord are not responsible for mediating the sympathetic baroreceptor reflex, that serotonin receptors of the 5HT1A type selectively inhibit the somatosympathetic reflex whilst leaving the baroreceptor reflex unaffected and the role of intracellular mechanisms that control airways, breathing and blood pressure.

Ultimately, our goal is to obtain a comprehensive understanding of the way that the brainstem and spinal cord regulates the vital functions of airways, breathing and the circulation. To do this it is essential to have a thorough understanding of the molecular biology, the intracellular signalling pathways, the neuroanatomy and neurochemistry as well as the physiology and pharmacology of neurons in the parts of the brain that control these functions. The next stage of our work is to determine the involvement of all of these different elements in situations such as hypertension where the control mechanisms go awry.
Muscle Cell Function Laboratory

David G Allen


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Neurobiology Laboratory

Maxwell R Bennett


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Brain Research Laboratory

W (Liam) Burke

Burke W. Psychophysical observations concerned with a foveal lesion (macular hole) *Vision Research* 1999; 39: 2421-2427


Auditory Neuroscience Laboratory

Simon Carlile


Epithelial Transport Laboratory
David I Cook

Cardiovascular Neuroscience Laboratory
Roger AL Dampney
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Tagawa T, Horiiuchi J, Potts PD, Dampney RAL. Sympathoinhibition after angiotensin receptor blockade in the rostral ventrolateral medulla is independent of glutamate and GABA receptors. Journal of the Autonomic Nervous System 1999; 77: 21-30
Tagawa T, Dampney RAL. AT1 receptors mediate excitatory inputs to RVLM pressor neurons from hypothalamus. Hypertension 1999; 34: 1301-1307

Developmental Physiology Laboratory
Margot L Day

Muscle Research Laboratory
Joseph FY Hoh

Vision Laboratory
Paul R Martin
Ghosh KK, Grünew U. Synaptic input to small bistratified (blue-On) ganglion cells in the retina of a New World monkey, the marmoset Callithrix jacchus. Journal of Comparative Neurology 1999; 413:417-428
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Grünew U, Ghosh KK. Midget and parasol ganglion cells of the primate retina express the α1 subunit of the glycine receptor. Visual Neuroscience 1999; 16:957-966
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Skin & Bone Laboratory (Endocrine Regulation)
Rebecca S Mason


Basic & Clinical Genomics Laboratory
Brian J Morris


Human Reproduction Unit
Christopher O’Neill


Molecular Neuroscience Laboratory
William D Phillips


Hypertension & Stroke Research Laboratory
Paul Pilowsky


Bennett MR, Farnell L, Gibson WG, Macleod GT, Dickens P. Quantal potential fields around individual active zones of amphibian motor-nerve terminals. *Biophysical Journal* 2000; 78: 1106-1118


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Yao ST, Barden JA, Finkelstein DI, Bennett MR, Lawrence AJ. Comparative study on the distribution patterns of P2X, and P2X2 receptor immunoreactivity in the brainstem of the rat and the common marmoset (*Callithrix jacchus*): association with catecholamine cell groups. *Journal of Comparative Neurology* 2000; 427: 485-507


**Brain Research Laboratory**

W (Liam) Burke


**Auditory Neuroscience Laboratory**

Simon Carlile


Epithelial Transport Laboratory
David I Cook


Li GH, Lee EM, Blair D, Holding C, Poronnik P, Cook DI, Barden JA, Bennett MR. The disposition of P2X receptor clusters on individual neurons in sympathetic ganglia and their redistribution on agonist activation. Journal of Biological Chemistry 2000; 275: 29107-29113

Cardiovascular Neuroscience Laboratory
Roger AL Dampney


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Developmental Physiology Laboratory
Margot L Day


Muscle Research Laboratory
Joseph FY Hoh


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Vision Laboratory
Paul R Martin


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Skin & Bone Laboratory (Endocrine Regulation)
Rebecca S Mason


Basic & Clinical Genomics Laboratory
Brian J Morris


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Human Reproduction Unit
Christopher O’Neill

Molecular Neuroscience Laboratory
William D Phillips


Hypertension & Stroke Research Laboratory
Paul Pilowsky


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Muscle Cell Function Laboratory
David G Allen


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Auditory Neuroscience Laboratory
Simon Carlile


Epithelial Transport Laboratory
David I Cook


Dinudom A, Harvey KF, Komwatana P, Joliffe CN, Young JA, Kumar S, Cook DI. Roles of the carboxyl termini of α, β, and γ-subunits of epithelial Na+ channels (ENaC) and in regulating ENaC and mediating its inhibition by cytosolic Na+. Journal of Biological Chemistry 2001; 276: 13744-13749

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Cardiovascular Neuroscience Laboratory
Roger AL Dampney


Developmental Physiology Laboratory
Margot L Day


Muscle Research Laboratory
Joseph FY Hoh

Zhong WW, Lucas CA, Kang LH, Hoh JFY. Electrophoretic and immunochemical evidence showing that marsupial limb muscles express the same fast and slow myosin heavy chains as eutherians. Electrophoresis 2001; 22:1016-1020
Vision Laboratory
Paul R Martin
Chan TL, Martin PR, Clunas N, Grünert U. Bipolar cell diversity in the primate retina: morphologic and immunocytochemical analysis of a New World monkey, the marmoset Callithrix jacchus. *Journal of Comparative Neurology* 2001; 437:219-239

Skint & Bone Laboratory (Endocrine Regulation)
Rebecca S Mason
Skin & Bone Laboratory (Endocrine Regulation)

Human Reproduction Unit
Christopher O’Neill

Basic & Clinical Genomics Laboratory
Brian J Morris
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Molecular Neuroscience Laboratory
William D Phillips

Hypertension & Stroke Research Laboratory
Paul Pilowsky
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Number in each, and ranking for Department in the last five years
From SCI® Journal Citation Reports: based on source items in 2001

The rankings of journals are made according to the 2001 SCI® Science Citation Index ‘impact factor’, which is a measure of the frequency with the ‘average article’ in a given journal in a given year has been cited in a given year. It is a ratio between citations and citable items published. The 2001 impact factor for a journal has been calculated by dividing the number of all the SCI® Science Citation Index source journals’ 2001 citations of articles that journal published in 1999 and 2000 by the total number of source items it published in 1999 and 2000. For all journals covered by the Index, a plot impact factor score vs number of journals with that score gives a distribution skewed towards the higher scores and having a median of 0.6 and a mode of 0.1. In the left column below N.L. means that the journal has not been listed in the index.

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### Mean ± SD of impact factors for journals of publication

- **2000**: 3.7 ± 2.3
- **2001**: 4.1 ± 4.0
- **Five years (1997-2001)**: 3.6 ± 3.0

% published in top 5% of journals (i.e., impact factor > 3.5) = 40% for five years of publication
## Total Annual Citations From 1998, 1999 & 2000

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(* average of 2 year total)
Books

1999
Morris BJ. In Favour of Circumcision. UNSW Press, Sydney, 1999

2000
Bennett MR. History of the Synapse. Harwood Academic, Sydney, 2001

2001

Chapters in Books

1999

2000
Mason RS. Effect of vitamin D on melanocytes and its role in melanogenesis. In Vitamin D in Dermatology. Kragballe K, ed, (chapter 7) Marcel Dekker, 2000; 123-132

2001
**Patents**

**Auditory Neuroscience Laboratory**
Simon Carlile

2001

**Basic & Clinical Genomics Laboratory**
Brian J Morris

2001

**Commercial Activities**

**Auditory Neuroscience Laboratory**
Simon Carlile

2000

2001
Establish VAST Audio Pty Ltd as a vehicle for the commercialization of auditory virtual environment research in the Laboratory.
1999

Grünert U. Distribution of GABA\textsubscript{A} and glycine receptors in the mammalian retina. *Clinical and Experimental Pharmacology and Physiology* 1999;26:941-944.

2000


2001
Nil
Conference Abstracts and Presentations 1999
(O, oral; P, poster; P+O, poster with short oral)

Muscle Cell Function Laboratory
David G Allen
Australian Physiological and Pharmacological Society, Newcastle, Sep 1999 (5 oral)

Neurobiology Laboratory
Maxwell R Bennett

Blair DH, Robson SA, King GF, Bennett MR. Perturbation of the synaptic vesicle in sympathetic boutons. 19th Annual Meeting, Australian Neuroscience Society. Hobart, Jan-Feb 1999, 141


Henery RJ, Hansen MA, Barden JA, Bennett MR. P2X receptors and spontaneous junction potentials in smooth muscle cells at the intimal surface of rat tail artery. 19th Annual Meeting, Australian Neuroscience Society. Hobart, Jan-Feb 1999, 139


O'Connor SC, Brain KL, Bennett MR. Different sympathetic varicosities in mouse vas deferens possess different alpha 2 and P2y autoreceptor distributions for the modulation of calcium transients. 19th Annual Meeting, Australian Neuroscience Society. Hobart, Jan-Feb 1999, 155

Brain Research Laboratory
W (Liam) Burke


Auditory Neuroscience Laboratory
Simon Carlile


Epithelial Transport Laboratory
David I Cook
No information received

Cardiovascular Neuroscience Laboratory
Roger AL Dampney
Australian Physiological and Pharmacological Society, Newcastle, Sep 1999 (1)
**Developmental Physiology Laboratory**
Margot L Day

Day ML and Cook DI. Regulation of ion transport in the preimplantation mouse embryo. 5th Annual Curtin Conference: Ion Channels and Transporters, Canberra, Jan 1999


Day ML, Johnson MH and Cook DI. Egg Timers. 4th Institute for Biomedical Research Symposium - Development - From Stem Cell to Embryo, Sydney, Jun 1999

**Muscle Research Laboratory**
Joseph FY Hoh


Hoh JFY, Li ZB, Rossmanith GH. Mechanical properties of single rabbit extraocular and limb muscle fibres. XIII International Biophysics Congress, New Delhi, Sep 1999, p375


**Vision Laboratory**
Paul R Martin


Solomon SG, White AJR, Martin PR. Tracing the third geniculo-cortical visual pathway in a New World monkey, the common marmoset (*Callithrix jacchus*). *Proceedings of the Australian Neuroscience Society* 1999; 10: 184


**Skin & Bone Laboratory (Endocrine Regulation)**

Rebecca S Mason

Nelson AE, Robinson BG, Hogan JJ, Holm IA, Mason RS. Physical properties and mechanism of action of the phosphate transport regulating factor from oncogenic osteomalacia tumour cells. *Australian and New Zealand Bone and Mineral Society annual scientific meeting*, Cairns, Qld, Jul 1999; 51


Mason RS, Holliday C, Jayram S, Smith M, Lee JK, Posner GH. Hybrid analogs of vitamin D have different activities in different cell types. *First International Conference on Chemistry and Biology of Vitamin D analogs*. Providence, RI, USA, Sep 1999; 16


Nelson AE, Robinson BG, Holm IA, Hogan JJ, Mason RS. Further characterisation of the phosphate transport regulating factor in oncogenic osteomalacia and mutation analysis of the PHEX gene in tumour cell DNA. *American Society for Bone and Mineral Research*, St Louis, MO, USA, Oct 1999; S325


**Basic & Clinical Genomics Laboratory**

Brian J Morris


Basic & Clinical Genomics Laboratory

Brian J Morris


Wang WYS, Lin RCY, Morris BJ. Overweight conferred by highly penetrant glucocorticoid receptor variant. *Genetics into the New Millenium: 23rd Annual Scientific Meeting of the Human Genetics Society of Australasia*, Sydney, Sep 1999; HG.28


Lin RCY, Wang WYS, Morris BJ. Glucocorticoid receptor gene (GRL; 5q31) is not linked to essential hypertension, but different markers show sex-specific associations. *Genetics into the New Millenium: 23rd Annual Scientific Meeting of the Human Genetics Society of Australasia*, Sydney, Sep 1999; HG.30


Molecular Neuroscience Laboratory
William D Phillips

Hypertension & Stroke Research Laboratory
Paul Pilowsky


Pilowsky PM. Sympatho-respiratory interaction within the spinal cord. *Australian Neuroscience Society Abstracts* Feb 1999; 10: 44

Conference Abstracts and Presentations 2000

(O, oral; P, poster; P+O, poster with short oral)

Muscle Cell Function Laboratory
David G Allen
Australian Physiological and Pharmacological Society, Melbourne, Nov 2000 (5 oral)

Neurobiology Laboratory
Maxwell R Bennett
Bennett MR, Farnell L, Gibson W, Lin Y. Quantal current fields generated in the electrical syncytium of smooth muscle by the release of ATP from sympathetic varicosities. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 93
Dickens P, Macleod GT, Bennett MR. The formation and regression of active zones within a 24 hr period at mature amphibian neuromuscular junctions. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 19
Lee EMT, Barden JA, Bennett MR. Distribution of voltage-gated Ca²⁺ channels and P2X receptors with synaptic proteins in rat superior cervical ganglion at different ages. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 127
Li GH, Blair D, Holding C, Lee EMT, Poronnik P, Barden JA, Bennett MR. Redistribution of P2x1 receptors on sympathetic neurons after receptor activation. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 231
Lin YQ, Farnell L, Gibson W, Bennett MR. Quantal potential fields around individual boutons in sympathetic ganglia. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 159
Macleod GT, Dickens P, Farnell L, Gibson W, Bennett MR. Quantal potential fields around individual active zones of amphibian motor-nerve terminals. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 212
Yao ST, Barden JA, Bennett MR, Lawrence AJ. A co-localisation study of P2X(1-6) and tyrosine hydroxylase in the brainstem of the rat. 20th Annual Meeting, Australian Neuroscience Society, Melbourne, Jan-Feb 2000; 182

Brain Research Laboratory
W (Liam) Burke

Auditory Neuroscience Laboratory
Simon Carlile
Behrend O, Carlile S. Neural responses to auditory stimulation in free field and virtual space. College of Health Sciences - Second Research Conference 2000 “From Cell to Society”, Leura, 2000; 20-7
Raad V, Jin C, Carlile S. Acoustic and psychophysical errors of virtual auditory space generated using interpolated head related transfer functions. Proceedings of the Australian Neuroscience Society, 2000; 144

Epithelial Transport Laboratory
David I Cook
No information received

Cardiovascular Neuroscience Laboratory
Roger AL Dampney
Australian Neuroscience Society (3)
American Physiological Society (3)
High Blood Pressure Research Council of Australia (2)

Developmental Physiology Laboratory
Margot L Day
Muscle Research Laboratory
Joseph FY Hoh

Hoh JFY, Kim Y, Lucas CA, Zhong WH. Cardiac myosins of marsupial mammals: subunit structure, developmental change and modulation by body size. 17th Annual Meeting of the Australian and New Zealand Society of Comparative Physiology and Biochemistry, Geelong, Dec Proceedings of the ANZSCPB, 2000; 17: 10

Zhong WH, Hoh JFY, Withers K. Effects of hypothyroidism on the distribution of cardiac and skeletal myosin isoforms in Antechinus Flavipes. 17th Annual Meeting of the Australian and New Zealand Society of Comparative Physiology and Biochemistry, Geelong, Dec 2000 Proceedings of the ANZSCPB, 2000; 17: 19

Vision Laboratory
Paul R Martin


Skin & Bone Laboratory (Endocrine Regulation)
Rebecca S Mason


Mason RS, Holliday C. 1,25Dihydroxyvitamin D contributes to photoprotection in skin cells. Eleventh Workshop on Vitamin D, Nashville, TN, 2000 p 212


Mason RS, Holliday C, Gupta R. Role of 1,25dihydroxyvitamin D3 in photoprotection. Mutagenesis and Experimental Pathology Society of Australia, Annual Scientific Meeting, Mt Buller Dec 2000

Basic & Clinical Genomics Laboratory
Brian J Morris

Morris B. Cytokine system genetics in cardiovascular disease. Baker Institute Symposium, Cardiovascular Genetics, Melbourne, Feb 2000; 35 (invited)


Plambeck CA, Adams DJ, van der Weyden L, Mackay JP, Morris BJ. NMR solution structure of the first zinc finger of ZNF265. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 36

Morris BJ, van der Weyden L, Rasko JEJ, Morris BJ. Intranuclear colocalization and interaction of SR zinc finger protein ZNF265 with splicing factors U1-70K and U2AF35. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 44

van der Weyden L, Adams DJ, Morris BJ. Tri-functional protein β-subunit thiolase, by binding to 3' - UTR, regulates renin expression, 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 54


Ericsson JO, Lin RCY, Benjafield AV, Morris BJ. β2-adrenoceptor Gln27Glu variant affects body weight, but not hypertension. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 12

Benjafield AV, Lin RCY, Dalziel B, Gosby A, Caterson ID, Morris BJ. G-protein β3 subunit gene splice variant in obesity and overweight. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 91

Lin RCY, Morris BJ. Association of interleukin-1β gene polymorphism with hypertension. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, Dec 2000; 92


Molecular Neuroscience Laboratory
William D Phillips

Phillips WD, Yang S, Han H. Involvement of rapsyn in targeting of newly synthesized acetylcholine receptors to receptor clusters. Proceedings of the Society for Neuroscience Society for Neuroscience 26, 61, New Orleans USA, Nov 2000

Hypertension & Stroke Research Laboratory
Paul Pilowsky

Moon EA, Goodchild AK, Deol K, Chalmers JP, Pilowsky PM. Lateralisation of presympathetic targets to rat sympathetic preganglionic neurons. Australian Neuroscience Society, Melbourne, 2000


Moran BL, Goodchild AK, Pilowsky PM. Spinal AT1 receptors mediate pressor responses to chemical stimulation of the rat PVN. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, 2000

Seyedabadi M, Goodchild AK, Pilowsky PM. Wortmannin in the rostral medulla lowers blood pressure in hypertensive but not normotensive rats. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, 2000

Miyawaki T, Goodchild AK, Pilowsky PM. Delta opioid receptors in the rostral ventrolateral medulla modulates cardiorespiratory coupling and the somatosympathetic reflex. 22nd Annual Scientific Meeting of the High Blood Pressure Research Council of Australia, Sydney, 2000


Stasinopoulos T, Goodchild AK, Christie MJ, Chalmers JP, Pilowsky PM. Delta opioid receptors are presynaptic and mu opioid receptors are postsynaptic on bulbospinal neurons in rat ventral respiratory group. US Society for Neuroscience, 2000

Goodchild AK, van Deurzen Bart TM, Pilowsky PM. Coordination of rhythmic activity in sympathetic and motor nerves following spinal transection. US Society for Neuroscience, 2000


Pilowsky PM. Amino acids in bulbospinal control of the sympathetic nervous system. 10th European Meeting on Hypertension, 2000
Conference Abstracts and Presentations 2001
(O, oral; P, poster; P+O, poster with short oral)

Muscle Cell Function Laboratory
David G Allen
3 posters and abstracts at the International Union of Physiological Sciences, Christchurch, NZ, Sep 2001

Neurobiology Laboratory
Maxwell R Bennett
Lin YQ, Bennett MR, Farnell L, Gibson WG, Blair DH. Quantal and non-quantal current and potential fields around individual sympathetic varicosities on release of ATP. *Proceedings 21st Annual Meeting, Australian Neuroscience Society*, Brisbane, Jan 2001; 57


Brain Research Laboratory
W (Liam) Burke


Auditory Neuroscience Laboratory
Simon Carlile


Cardiovascular Neuroscience Laboratory
Roger AL Dampney
Australian Neuroscience Society (2)
Society for Neuroscience (1)

Developmental Physiology Laboratory
Margot L Day

Winston NJ, Johnson MH, Cook DI, Day ML. Expression of the Erg1 K+ channel during the cell cycle and cell polarization in the early embryo. *IUPS Satellite Symposium, Electrolyte Transport Across Exocrine Epithelia*, Leura, 2001; 125-126


Muscle Research Laboratory
Joseph FY Hoh

Hoh JFY. Molecular motors in jaw-closing muscles of vertebrates. *XXXIV Congress of the IUPS Satellite Meeting, Muscle Fibre Types: Development, Function and Regulation*, Sydney, Sep 2001; 2-1

Hoh JFY, Kang LHD. Myosin gene expression in regenerated rabbit extraocular muscles reinnervated by limb and oculomotor nerves. *XXXIV Congress of the IUPS Satellite Meeting, Muscle Fibre Types: Development, Function and Regulation, Sydney, Sep 2001; 7-2*

Lucas CA, Hoh JFY. Variations in myosin heavy chain expression along two types of orbital multiply innervated muscle fibres in the rabbit extraocular muscle. *XXXIV Congress of the IUPS Satellite Meeting, Muscle Fibre Types: Development, Function and Regulation, Sydney, Sep 2001; 5-2*

Rhee HS, Lucas CA, Hoh JFY. Fibre type transformation in reinnervated rat thyroarytenoid muscles. *XXXIV Congress of the IUPS Satellite Meeting, Muscle Fibre Types: Development, Function and Regulation, Sydney, Sep 2001; 7-3*

**Vision Laboratory**

**Paul R Martin**


**Skin & Bone Laboratory (Endocrine Regulation)**

**Rebecca S Mason**


Mason RS, Gupta R, Holliday C. Sunlight and vitamin D. *Mutagenesis and Experimental Pathology Society of Australia, Annual Scientific Meeting Sydney, Nov 2001: 17*


**Basic & Clinical Genomics Laboratory**

**Brian J Morris**


van der Weyden L, Adams DJ, Morris BJ. Tri-functional protein β-subunit thiolase, by binding to 3’-UTR, regulates renin expression. 22nd Annual Conference on the Organisation and Expression of the Genome, Lorne, Vic, Feb 2001; 2-71


Morris BJ. Variegated (on/off switching) model of physiological (renin) gene expression. The 2001 Institute for Biomedical Research Symposium – Physiological Genomics, Sydney, Jun 2001 (no abstract)

Adams DJ. Elucidation of spliceosomal components and interaction. The 2001 Institute for Biomedical Research Symposium – Physiological Genomics, Sydney, 15 Jun 2001 (no abstract)

van der Weyden L. Factor finding in posttranscriptional control: renin mRNA and yeast 3-hybrid. The 2001 Institute for Biomedical Research Symposium – Physiological Genomics, Sydney, 15 Jun 2001 (no abstract)


Lin RCY, Schyvens JA, Whitworth JA, Morris BJ. Tumor necrosis factor receptor 2 mRNA measured by real-time PCR in rats with corticosterone-induced hypertension. *Clinical and Experimental Pharmacology and Physiology* 2002; 29 (suppl): A21


Pilowsky PM. Neurons that cause hypertension. IIIrd Franco-Australian Meeting on Hypertension, Porticcio, Corsica, Jun 2001

Seyedabadi M, Goodchild AK, Pilowsky PM. PI3 kinase dependent pathway in the rostral ventrolateral medulla oblongata regulates arterial blood pressure in the spontaneously hypertensive rat but not normotensive rat. 11th European Meeting on Hypertension, Milan, Jun 2001

Miyawaki T. 5HT1A receptors in the rostral ventral medulla inhibit the somatosympathetic reflex via C1 adrenergic neurons. 9th International Catecholamine Symposium Kyoto, Japan, 2001

Molecular Neuroscience Laboratory
William D Phillips


Hypertension & Stroke Research Laboratory
Paul Pilowsky


Seyedabadi M, Goodchild AK, Pilowsky PM. PI3 kinase inhibition in the rostral ventrolateral medulla lowers blood pressure in hypertensive but not normotensive rats. Australian Neuroscience Society, Brisbane, 2001

Moran BL, Goodchild AK, Pilowsky PM. Spinal AT1 receptors mediate pressor responses to chemical stimulation of the rat PVN. Australian Neuroscience Society, Brisbane, 2001

Makeham JM, Goodchild AK, Pilowsky PM. NK1 immunoreactive varicosities closely appose RVLM C1 neurons. Australian Neuroscience Society, Brisbane, 2001

Miyawaki T, Goodchild AK, Pilowsky PM. 5HT1A receptors in the rostral ventral medulla selectively inhibit the somatosympathetic reflex. Australian Neuroscience Society, Brisbane, 2001

Reja V, Goodchild AK, Pilowsky PM. Quantitation by real time PCR fluorescence detection of gene expression in the rat brainstem. Australian Neuroscience Society, Brisbane, 2001

Berkowitz R, Pilowsky PM, Sun Q-J. The Pre-Botzinger complex and phase-spanning neurons in the adult rat IUPS satellite, Christchurch NZ, 2001
Official for Scientific Societies at National or International Conferences

David G Allen

1999
Honorary Treasurer and Member of Council, Australian Physiological and Pharmacological Society (1998–)
Member, Organizing Committee for APPS Symposium on Cardiac Ischaemia, Newcastle, NSW

2001
Member, Organizing Committee for IUPS Symposium on Excitation-Contraction Coupling, Heron Island, Qld, Aug

Maxwell R Bennett

1999
International Scientific Advisory Board for 9th International Catecholamine Conference, Kyoto, Japan

2000
Chair, Symposium, ISAN Millenium Congress, London

2001
President, International Society for Autonomic Neuroscience (ISAN)

David I Cook

2001
Joint organiser of the IUPS Satellite Symposium, Electrolyte Transport Across Exocrine Epithelia, Leura, NSW, Aug

Anuwat Dinudom

2001
Joint organiser of the IUPS Satellite Symposium, Electrolyte Transport Across Exocrine Epithelia”, Leura NSW, Aug

Ann Goodchild

2001
Speaker and Member of the organising committee, of a satellite symposium for the International Meeting of Physiological Sciences, Central Mechanisms of Cardiovascular Control - Cellular, Molecular and Integrative Aspects, Bondi Beach, Sydney, Aug

Joseph FY Hoh

2000
Chair, Muscle Development Symposium, Satellite Meeting, XXXIV Congress of the IUPS, Muscle Fibre Types: Development, Function and Regulation, Sydney

2001
Organizer, XXXIV Congress of the IUPS Satellite Meeting, Muscle Fibre Types: Development, Function and Regulation, Sydney, Sep

Paul R Martin

1999
Co-organiser, ANS Symposium GABA and Glycine receptors. Co-editor of Proceedings for Clinical and Experimental Physiology and Pharmacology

2001
Session moderator, Association for Research in Vision and Ophthalmology 2001 Meeting, Ft Lauderdale FL, USA

Rebecca S Mason

1999
Member, Planning Committee. First International Congress on the Chemistry and Biology of Vitamin D Analogos, Providence, RI, USA, Sep 1999

2000
Chair, Calcium and Bone session, International Congress of Endocrinology 2000, Sydney

Member, Bid Committee, 1996-7, and Local Organizing Committee, Media Liaison Sub-committee 1997-2000 International Congress of Endocrinology 2000. Sydney Member, Scientific Advisory Board, National Osteoporosis Campaign of Australia, 2000-

2001
Council Member, Australia and New Zealand Society for Bone and Mineral Research, 2001-

Brian J Morris

2000
Chair, Clinical Genetics Session, 18th Scientific Meeting of the International Society of Hypertension, Chicago IL, USA
Chair of Genetics session, ASEANZ Cardiovascular & Lipid Forum, Melbourne, Aug

Chair, Clinical Genetics session, 18th Scientific Meeting of the International Society of Hypertension, Chicago, Aug

Member, Organizing Committee for High Blood Pressure Research Council Annual Scientific Meeting, Sydney, Dec

2001
Member, Executive Committee, High Blood Pressure Research Council of Australia, 1995–2001

Member, Organizing Committee for International Union of Physiological Sciences Satellite Meeting, Renin Angiotensin Aldosterone: from Molecule to Malady, Melbourne, Aug

Paul Pilowsky

1999
Chair of Oral Session on Respiration, 19th Annual Meeting of the Australian Neuroscience Society, Hobart

2001
Chair and Member of the organising committee of a satellite symposium for the International Meeting of Physiological Sciences, Central Mechanisms of Cardiovascular Control - Cellular, Molecular and Integrative Aspects. Bondi Beach, Sydney, Aug

John A Young

2001
Symposium Chairman, Conference of the International Union of Physiological Sciences, Christchurch, NZ
Invited Presentations as National or International Conferences

David G Allen

1999
APPS Symposium on Cardiac Ischaemia, Newcastle.
Department of Human Anatomy & Cell Biology, University of Liverpool, UK
Victor Chang Cardiac Research Institute, Sydney

2000
Curtin Conference on Muscle, Canberra.
Skeletal Muscle Diseases - Common Denominators, Stockholm, Sweden
Gordon Conference on Muscle; Excitation-contraction coupling, New Hampshire, USA
International Society for Heart Research (Australasian Section), Melbourne
Canadian Society for Exercise Physiology, Canmore, Canada
John Curtin School of Medical Research, Australian National University, Canberra
Heart Research Institute, Sydney
Department of Physiology, Karolinska Institute, Stockholm, Sweden
Cardiovascular Group, Pfizer, Connecticut, USA
Cardiovascular Research Group, University of Calgary, Canada

2001
Experimental Biology Symposium on Fatigue, Orlando, FL, USA
International Union of Physiological Sciences Satellite, Exercise, Muscle and Metabolism, Melbourne
International Union of Physiological Sciences Satellite, Excitation-Contraction Coupling, Heron Island Qld
John Curtin School of Medical Research, Australian National University, Canberra
Heart Research Institute, Sydney
Department of Physiology, Karolinska Institute, Stockholm, Sweden
Cardiovascular Group, Pfizer, Connecticut, USA
Cardiovascular Research Group, University of Calgary, Canada

W (Liam) Burke

2000
Universities of Glasgow, Liverpool and Cork, Sep 2000

2001
The Art of Seeing and the Seeing of Art Symposium. Australian National University, Canberra, Dec

Simon Carlile

1999
Educause, Opening address, Sydney

2000
IQPC, Website Content Management Conference, Sydney
IEEE Pacific Rim Conference on Multimedia, Sydney
ISA’2000 Wollongong
Association of Pacific Rim Universities – Distance Learning Conference

2001
Human Computer Interaction, New Orleans, USA
Open and Distance Learning Association: Education Odyssey, Sydney Keynote + speaker invited panel member the “Beyond” chat show

David I Cook

1999
Gordon Conference on Salivary Glands and Saliva, Ventura, CA, USA
Korean Society of Oral Biology, Seoul Korea, Plenary Lecturer
Conference of the National Physiological Institute of Japan, Okazaki Japan
Curtin Conference on Ion Channels, Canberra

2000
British Pharmacological Society, Cambridge, UK
Korean Academy of Medical Sciences, Seoul, Korea
Prize Lecturer, Physiological Society, Cambridge, UK
ENaC2000 Conference, 3rd International Meeting on ENaC and Degenerins, Villars-sur-Ollon, Switzerland
Conference of the National Physiological Institute of Japan, Okazaki, Japan

2001
Gordon Conference on Salivary Glands and Saliva, Ventura, CA, USA
Cellular and Molecular Biology of Membrane Transport Systems in Disease, Coolangatta, Qld
Ion Transport across Exocrine Epithelia, Leura, NSW

Maxwell R Bennett

1999
Cade Lecture, Mental Health Institute, Melbourne
Burnet Lecture, Australian Academy of Science, Canberra

2000
Invited Lecture, International Society for Autonomic Neuroscience (ISAN), London
Roger AL Dampney

1999

*III International Symposium on Vasoactive Peptides, Belo Horizonte, Brazil*

Symposium in honour of Professor Saxon White, 67th Meeting of the Australian Physiological and Pharmacological Society, Newcastle, NSW

2000

*Symposium on Neural Mechanisms in Cardiovascular Control, Satellite Meeting of the International Society for Autonomic Neuroscience, London, UK*

Symposium in honour of Professor John Ludbrook, 68th Meeting of the Australian Physiological and Pharmacological Society, Melbourne

APPS Lecturer, 68th Meeting of the Australian Physiological and Pharmacological Society, Melbourne

2001

*Symposium on Neurotransmitters in Cardiovascular Regulation: Angiotensin, Physiology in Focus Symposium of the American Physiological Society, Orlando, FL, USA (Chair and speaker)*

*Symposium on Central Mechanisms of Cardiovascular Control, Satellite meeting of the International Union of Physiological Sciences, Sydney*

*Symposium on Cardio-renal Control in Health and Disease, Satellite meeting of the International Union of Physiological Sciences, Queenstown, NZ*

Chalmers Symposium: a Celebration, Sydney

Margot L Day

1999

5th Curtin Conference, Ion Channels, Canberra

2000

Physiological Society of Thailand, *Membrane Transport in Health and Disease*, Phitsanulok, Thailand

2001

FASEB, Experimental Biology Conference, Orlando, FL, USA

Anuwat Dinudom

1999

Conference of the National Physiological Institute of Japan, Okayaki, Japan

Curtin Conference on Ion Channels, Canberra, ACT

2000

Korean Academy of Medical Sciences, Seoul, Korea

Conference of the National Physiological Institute of Japan, Okayaki Japan

Annual Meeting of the Thai Physiological Society, Pitsnuloak, Thailand

2001

Ion Transport across Exocrine Epithelia, Leura NSW

Conference of the International Union of Physiological Sciences, Christchurch, NZ

Ulrich Grunert

2001

Plenary lecture, Australian Ophthalmology and Vision Science Meeting, Sydney, Dec

Joseph FY Hoh

2001


XXXIV Congress of the IUPS Satellite Meeting, *Structure and Function of Highly Specialized Muscles*, Wollongong

Paul R Martin

1999

International Color Vision Society Meeting, Göttingen, Germany, Jul (Invited keynote lecture)

2000

Baker Institute Symposium, Cardiovascular Genetics, Melbourne, Feb

Genetics satellite meeting of 18th Scientific Meeting of the International Society of Hypertension, Toledo, OH, USA, Aug

2001

IIIrd Franco-Australian Meeting on Hypertension, Porticcio, Corsica, France, Jun

International Union of Physiological Sciences Satellite Meeting ‘Renin Angiotensin Aldosterone: from Molecule to Malady’, Melbourne, Aug

Rebecca S Mason

2000

Modern Trends in Skin Pharmacology: Molecular and Clinical Aspects, Athens, Greece, Jun

Mutagenesis and Experimental Pathology Society of Australia, Scientific Meeting, Mount Buller, Vic, Dec

2001

Mutagenesis and Experimental Pathology Society of Australia, Scientific Meeting, Sydney, Nov

Brian J Morris

2000

Baker Institute Symposium, Cardiovascular Genetics, Melbourne, Feb

Genetics satellite meeting of 18th Scientific Meeting of the International Society of Hypertension, Toledo, OH, USA, Aug

2001

International Union of Physiological Sciences Satellite Meeting ‘Renin Angiotensin Aldosterone: from Molecule to Malady’, Melbourne, Aug

Paul Pilowsky

1999

Sixth International Congress on Amino Acids, Bonn, Germany, Aug, Invited Plenary Lecturer (1 hour)

2000

Workshop on Central Regulation of Blood Pressure – New Insights. 10th European Meeting on Hypertension, Göteborg, Sweden, May-June

John A Young

1999

Gordon Conference on Salivary Glands and Saliva, Ventura, CA, USA, Plenary Lecturer
News Media

Brian J Morris
Magazines

Canberra Doctor Apr 1999 p 4 ‘Patients needed to find genes for hypertension’ (story and photograph)
Practical Parenting mid 1999 pp 42-44 ‘Circumcision: helpful or harmful?’
Twins: 1999 Australian Twin Registry Newsletter ‘Genome scanning–Locating genes’
FHM July 1999 p 120 (book review by magazine) ‘A win for the helmets’
Australian Medicine 5 Jul 1999 p 10 ‘Youth seek facts on foreskins’
Venereology 12, no 2, 1999, pp 68-69 (book review by Dr B Donovan) ‘In Favour of Circumcision’

Newspapers

Glebe & Inner Western Weekly: 3 Mar 1999 ‘Strike stops uni for a day.’ (photograph on p 5).
The Sun-Herald–Tempo 25 Apr 1999 ‘Babies at the cutting edge: circumcision of male infants is making a comeback’
Weekend Australian 13 Jun 1999 ‘To snip or not to snip, that is the question’
Weekend Australian 17 Jul 1999 ‘An argument that cuts both ways’
Sunday Telegraph: Dr James Wright column 29 Aug 1999 p 170 ‘Cutting comments’
Sunday Telegraph: Dr James Wright column 29 Aug 1999 p 33 (Brisbane) ‘Circumcision gets the chop’
The Australian 1 Sep 1999 ‘Sydney staff vote for 14.7 per cent rise’ (in photo)
The Australian Jewish News: 5 Nov 1999 (Book review) ‘Medical support for circumcision’
The Sun-Herald 26 Dec 1999 ‘Too fat? It’s in the genes’ (story and cartoon)
The Australian 24 May 2000 p 42 ‘Sydney’s dual achievers’ (William Wang graduates with two degrees – story and photo)

University publications

The University of Sydney News 2 Dec 1999 (cover story) ‘Fat gene discovered– and this time there’s no escaping it’
Research at The University of Sydney 1999 (story and photograph) p 23
Innominate Feb 2000 vol 51 p 19 ‘The phallacy of New Year’
The University of Sydney News 24 Aug 2000 p 4 ‘Researchers win race to discover rogue gene’

Television

ABC Channel 2 Evening News 3 Sep 2000 ‘Gene discovered for hypertension’
ABC 7.30 Report 15 Oct 2000 ‘Need for science and research funding’

Radio

In Favour of Circumcision:

ABC National
6-7 pm 10 Aug 1999 [Australia Talks Back]
9.45 am 20 Apr 2000 [Norman Swan]
4.30 pm 15 Apr 1999
ABC Regional
Toowoomba: 9.10 am 8 Apr 1999
Newcastle/Taree: 9 am 19 Apr 1999
Illawarra (Wollongong) 9.30 am 19 Apr 1999
ABC JJJ (National) ~10 am 12 May 1999 (feature show)
2UE 11.30 am 10 Apr 1999, Dr James Wright show
5DN 9.50 am 12 Apr 1999, 28 Mar 2000
6PR 10.40 am 14 Apr 1999 (Howard Satler program)
7ZR 10.30 am 27 Apr 1999
“Fat gene”: ABC: 7 Dec 1999
Awards and Prizes

**Academic Staff**

1999

Maxwell R Bennett  
*Burnet Medal, Australian Academy of Science  
Malcolm Research Prize, National Heart Foundation of Australia*

David I Cook  
Election to the Royal Australasian College of Surgeons  
Award of the Australian Physiological and Pharmacological Society/Physiological Society Prize Lectureship  
*John and Yvonne Almgren Research Award of the National Heart Foundation*

Paul Pilowsky  
*Broyles-Malonee Award of the Americal Broncho-Esophagological Association*

John A Young  
*Humboldt Research Prize*

2000

Maxwell R Bennett  
*John and Yvonne Almgren Research Prize, National Heart Foundation of Australia  
President, International Society for Autonomic Neuroscience (2000-2003)*

Roger AL Dampney  
*Dorothy Frances Martin Research Award, National Heart Foundation  
APPS Lecturer, 68th Meeting of the Australian Physiological and Pharmacological Society*

2001

David G Allen  
*Fellow of the American Heart Association (Basic Cardiovascular Sciences)  
Graham Mainwood Memorial Lecturer, University of Otawa, Canada*

Maxwell R Bennett  
*Order of Australia (Officer, General Division), Queen’s Birthday Honours List  
Professor and University Chair, University of Sydney  
Distinguished Achievement Award and Medallion, Australian Society for Neuroscience  
Tall Poppy Award for Excellence in Science, Australian Institute for Political Science  
John and Yvonne Almgren Research Prize, National Heart Foundation of Australia*

**Students**

1999

Adams DJ  
*Young Investigator Award for best oral presentation at 1999 Annual Scientific Meeting of the High Blood Pressure Research Council of Australia*

Stasinopoulos T  
*Medical Foundation, Postgraduate Pharmacology Seminar Prize*

2000

Balnave CD  
*CJ Martin Fellowship NHMRC (for 1997-2000)  
AK Macintyre Prize from APPS*

Cummins MM  
*Berkovici Prize*

Marsh AJ  
*Aventis-Pharma Young Investigator Award for best oral presentation at 2000 Annual Scientific Meeting of the High Blood Pressure Research Council of Australia.  
ANS Student Prize (Highly Commended)*

2001

Adams DJ  
*Pfizer Award for best student presentation at Lorne Genome Conference  
CJ Martin Fellowship, NHMRC (for 2002-5)*

Gupta R  
*Kumar award for best presentation at 2001 Annual Scientific Meeting of Mutagenesis and Experimental Pathology Society of Australia*

Potas J  
*Istvan Tork Prize for best oral presentation by a student member at the Annual Meeting of the Australian Neuroscience Society  
Sapphire Bioscience Prize for best presentation in Neuroscience at the Institute for Biomedical Research Conference*

Reja V  
*IUPS satellite student prize (Highly Commended)*
Student Travel Awards

1999

Ju YK
Travel Award from Australian National Academy to attend meetings in France and UK

2000

Adams DJ
From International Society of Hypertension to attend ISH2000 Meeting in Chicago
From High Blood Pressure Research Foundation of Australia to attend ISH2000 Meeting in Chicago

Stasinopoulos T
ANS Student Travel Grant
Sydney University Student Travel Grant

2001

Mirams M
From Australian & New Zealand Bone and Mineral Society to attend Annual Scientific Meeting in Auckland NZ

Reja V
National Heart Foundation Junior Travel Grant

Stasinopoulos T
Australia Neuroscience Society Student Travel Grant

Wang WYS
Wellcome Trust Travel Award 2001 for travel to Cambridge
PhDs Awarded

1999
Neurobiology Laboratory
Maxwell R Bennett
Brain KL. Calcium in autonomic neurons following action potentials.
Macleod GT. Correlates of transmitter release at the motor-nerve terminal of *Bufo marinus*.

Epithelial Transport Laboratory
David I Cook
Gibb CA. pH regulatory mechanisms in the mouse early embryo.

Skin and Bone Laboratory (Endocrine Regulation)
Rebecca S Mason
Namkung-Matthai H. Studies of human bone cell function.

Molecular Neuroscience Laboratory
William D Phillips
Han H. Roles of rapsyn and agrin in acetylcholine receptor clustering.

2000
Neurobiology Laboratory
Maxwell R Bennett
Henery RJ. Autonomic transmission in a smooth muscle syncytium.

Muscle Research Laboratory
Joseph FY Hoh
Hsu MKH. Molecular biology of superfasc myosin: gene structure and molecular evolution.

2001
Neurobiology Laboratory
Maxwell R Bennett
Li GH. Signalling by extracellular nucleotides and P2 receptors.

Auditory Neuroscience Laboratory
Simon Cartile
Jin C. Spectral analysis and resolving spatial ambiguities in human sound localization.

Muscle Research Laboratory
Joseph FY Hoh
Turnbull L. Mechanisms of action of endothelin and adrenaline on cardiac muscle mechanics (co-sup with Macquarie Univ).

Vision Laboratory
Paul R Martin
Solomon SG. Central visual pathways in a new world primate.

Basic & Clinical Genomics Laboratory
Brian J Morris
Adams DJ. Control of renin gene and mRNA.

Molecular Neuroscience Laboratory
William D Phillips
Xun (Simor) Liang. Structure of the P2Xi purinoceptor gene and its developmental expression in the mouse.

Master of Medicine Awarded

2001
Basic & Clinical Genomics Laboratory
Brian J Morris
Wang WYS. Candidate gene studies in essential hypertension - angiotensinogen, α-adducin, and angiotensin II type 1 receptor genes.
1999

Muscle Cell Function Laboratory
David G Allen

Romeo S. P2x receptors and apoptosis: involvement in myocardial ischaemia. Result: 2(i)

Inman L. (co-sup with Dr Martin Thompson) An investigation of fatigue induced by repeated isometric contractions of the human quadriceps. Result: 2(i)

Auditory Neuroscience Laboratory
Simon Carlile

Best V. Discrimination of the velocity and direction of moving sound sources. Result: 1st class and University Medal

Cardiovascular Neuroscience Laboratory
Roger AL Dampney

Cavanagh SJ. Hypothalamic afferent inputs to medullary cardiovascular nuclei. Result: 2(i)

Muscle Research Laboratory
Joseph FY Hoh

Mariathas MK. Effect of nitric oxide on cardiac mechanics. Result: 2(i)

Rhee HSM. Distribution of myosin heavy chains in laryngeal muscles. Result: 2(i)

Wing H. Distribution of myosin isoforms in extraocular muscles. Result: 2(ii)

Muscle Cell Function Laboratory
David G Allen

Pham V. Development of a single cell model to study skeletal muscle plasticity. Result: 1st class

Rhee HSM. Distribution of myosin heavy chains in laryngeal muscles. Result: 2(i)

Wing H. Distribution of myosin isoforms in extraocular muscles. Result: 2(ii)

Hypertension and Stroke Research Laboratory
Paul Pilowsky

Moran B. Spinal angiotensin II type - 1 receptors mediate the sympathetic outflow of the rat paraventricular nucleus of the hypothalamus. Result: 2(i)

2000

Muscle Cell Function Laboratory
David G Allen

Pham V. Development of a single cell model to study skeletal muscle plasticity. Result: 1st class

Skin & Bone Laboratory (Endocrine Regulation)
Rebecca S Mason

Dai D. The effects of estradiol and phytoestrogens on induced bone cell death in an in vitro system. Result: 2(i)

Basic & Clinical Genomics Laboratory
Brian J Morris

Plambeck CA. NMR solution structure of the first zinc-finger domain of ZNF265 and its function in RNA splicing. Result: 1st class, University Medal and Colin Dunlop Prize
**BSc(Hons) Awarded**

**1999**

**Human Reproduction Unit**
Christopher O'Neill

Bathgate R. PAF-induced intracellular calcium PAF transients in 2-cell embryo. *Result: 2(i)*

**Molecular Neuroscience Laboratory**
William D Phillips

Moussa C. The developmental expression and distribution of the P2X1 receptor in visceral and vascular smooth muscle cells in the mouse. *Result: 2(i)*

**2000**

**Epithelial Transport Laboratory**
David I Cook

Kim S. Changes in SGK mRNA expression in response to corticosteroids. *Result: 1st class*

**Cardiovascular Neuroscience Laboratory**
Roger AL Dampney

Marsh AJ. Central mechanisms controlling sympathetic responses to leptin. *BSc(Adv)(Hons). Result: 1st class*

**Development & Regeneration Group**
Dave Davey

Mross P. Morphological changes blood vessels in the liver induced by oxidative agents. *Result: 1st class*

**Human Reproduction Unit**
Christopher O'Neill

Askew B. L-type calcium channel in the preimplantation embryo. *Result: 2(i)*

**2001**

**Muscle Cell Function Laboratory**
David G Allen

Moopanar T. Activity of the Na+/H+ exchanger during myocardial ischaemia. *Result: 1st class*

**Auditory Neuroscience Laboratory**
Simon Carlile

Dickson, B. The auditory periphery of the guinea pig: individual variance and the effects of pinna manipulation. *Result: 2(i)*

**Vision Laboratory**
Paul R Martin

Blessing E (co-sup Morris). Polymorphic visual pigments and colour vision in Primates. *Result: 1st class*

Jusuf P (sup Grunert, co-sup Martin). Synaptic connectivity of bipolar cells in primate retina. *Result: 1st class, University Medal and Colin Dunlop Prize*

**Human Reproduction Unit**
Christopher O'Neill

Chandrakanthan V. Involvement of PI1 kinase in PAF-mediated transient rise in intracellular calcium concentration in 2-cell embryos. *Result: 1st class*

Lombardi L. Investigation of apoptosis-related proteins BCI-2 and Bcα-2 in the preimplantation embryo. *Result: 2(i)*

**Hypertension & Stroke Research Laboratory**
Paul Pilowsky

Scholarships and Fellowships

**Neurobiology Laboratory**
Maxwell R Bennett
1999
Brain K. Australian Postgraduate Award; Oxford Nuffield Medical Fellowship (Australian Academy of Science)
Li GH. International Postgraduate Research Scholarship, International Postgraduate Award (for 1999-01)

**Epithelial Transport Laboratory**
David I Cook
1999
Poronnik P. Sesquicentenial Post-doctoral Fellowship
2000
Dinudom A. RD Wright Fellowship, NHMRC

**Cardiovascular Neuroscience Laboratory**
Roger AL Dampney
2001
Sheriff MJ. Australian Postgraduate Award

**Vision Laboratory**
Paul R Martin
1999
Solomon S. University of Sydney Faculty of Medicine Postgraduate Research Scholar, 1999-2001; CJ Martin Fellowship NHMRC (2002-05)
2001
White AJR. Dora Lush Research Scholarship, NHMRC 1999-Lin B. University of Sydney Overseas Postgraduate Award (for 1999-2001)

**Skin & Bone Laboratory (Endocrine Regulation)**
Rebecca S Mason
2001
Gupta R. Medical Foundation Postgraduate Scholarship
Gupta R. Australasian College of Dermatologists – Fred Bauer Award (for project consumables)

**Basic & Clinical Genomics Laboratory**
Brian J Morris
1999
Wang WYS. St John’s College Watson Scholarship
2001
Adams DJ. CJ Martin Fellowship NHMRC (2002-05)
Wang WYS. Elmore Medical Research Studentship, School of Clinical Medicine, University of Cambridge
Wang WYS. Elmore Research Studentship (Honorary), Gonville & Caius College
Wang WYS. Cambridge Commonwealth Trust Scholarship (Honorary)

**Hypertension & Stroke Research Laboratory**
Paul Pilowsky
1999
Pilowsky P. Senior Research Fellowship NHMRC (1998-2001)
2000
Reja V. Australian Postgraduate Award
2001
Makeham J. Andrew Olle Research Scholarship
Seyedabadi M. Faculty of Dentistry PhD Scholarship
# Refereeing: Manuscripts Reviewed for Journals

## Other Research Activities

<table>
<thead>
<tr>
<th>Name</th>
<th>Year(s)</th>
<th>Publications</th>
</tr>
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<tbody>
<tr>
<td>Maxwell R Bennett</td>
<td>1999 (4)</td>
<td><em>Clin Exp Pharmacol Physiol</em>, <em>J Physiol Lond</em>, <em>Neuroscience</em></td>
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<tr>
<td></td>
<td>2001 (3)</td>
<td><em>Autonom Neurosci</em>, <em>Lancet</em>, <em>Math Biosci</em></td>
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<tr>
<td>Simon Carlile</td>
<td>1999 (3)</td>
<td><em>J Acoust Soc Am</em></td>
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<td>2000 (2)</td>
<td><em>J Acoust Soc Am</em>, <em>Brain Res</em></td>
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<td></td>
<td>2001 (4)</td>
<td><em>J Assoc Res Otolaryngol</em>, <em>Perception</em>, <em>J Acoust Soc Am</em></td>
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<td>Margot L Day</td>
<td>1999 (2)</td>
<td><em>Brit J Pharmacol</em></td>
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<td>2000 (4)</td>
<td><em>J Musc Res Cell Motil</em>, <em>J Physiol</em>, <em>Pflug Arch Eur J Physiol</em></td>
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<td>2001 (2)</td>
<td><em>Invest Ophthalmol Vis Sci</em>, <em>J Physiol</em></td>
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<td>Rebecca S Mason</td>
<td>1999 (3)</td>
<td><em>J Bone Min Res</em>, <em>Aust J Dermatol</em></td>
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<td>2001 (6)</td>
<td>Free communications for International Congress of Endocrinology 2000</td>
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<td>2000 (2)</td>
<td>(Breakdown not available)</td>
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<td>William D Phillips</td>
<td>1999 (2)</td>
<td><em>J Neurochem</em>, <em>Neurosci Lett</em></td>
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<td>2000 (1)</td>
<td><em>J Comp Neurol</em></td>
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</table>
Grant Applications Assessed

David G Allen (51)
1999 (14)
NHMRC (6), ARC (3), NHF (3), Wellcome Trust (1), Health Res Council NZ (1)
2000 (15)
NH&MRC (6), ARC (2), NHF (1), Wellcome Trust (2), Health Res Council NZ (1), NSERC Canada (1)
2001 (22)
NH&MRC (12), ARC (2), NHF (2), Wellcome Trust (2), Cardiovascular/Lipid RG (1), Health Res Council NZ (2)

Maxwell R Bennett (41)
1999 (20)
ARC (7); NHMRC (4), NHMRC Program (1), NHMRC Fellowship (1), NHF (1), Australian National University Faculties Research Grants Scheme (1), Human Frontier Science Program Organization, France (1), Health Research Council of New Zealand (1), Royal Society of New Zealand Marsden Fund (1), Wellcome Trust, UK (1), Wellcome Trust Travelling Research Fellowship, UK (1)
2000 (15)
ARC (3), ARC Fellowship (2), International Program of the Academy of Science (1), NHMRC (4), NHMRC Fellowship (1), NHF (1), National Science Foundation, USA (1), Ramaciotti (1), Sylvia & Charles Viertel Charitable Foundation: Senior Medical Research Fellowship (1)
2001 (6)
ARC (1), NHMRC Senior Research Fellowship (1), NHF (1), NHF Overseas Fellowship (1), Wellcome Trust Program Grant, UK (2), University of Iowa Visiting Professorship, USA (1)

Margot L Day (3)
1999 (1)
NHMRC (1)
2000 (2)
NHMRC (2)

Ann Goodchild (8)
1999 (1)
NHF (1)
2000 (3)
NHMRC (1), NHF (2)
2001 (4)
NHMRC (1), NHF (3)

Ulrich Grünert (6)
2000 (2)
NHMRC (1), Wellcome Trust (1)
2001 (4)
NHMRC (1), Wellcome Trust (2), NZ Optometric Vision Research Foundation (1)

Joseph FY Hoh (15)
1999 (10)
NHMRC (5), ARC (4), NHF (1)
2000 (3)
NHMRC (1), ARC (1), NZ Neurological Foundation (1)
2001 (2)
NHMRC (2)

Paul R Martin
ARC, NHMRC, Retinitis Pigmentosa Foundation, Wellcome Foundation

Rebecca S Mason (21)
1999 (11)
NHMRC (5 project, 2 fellowship), Qld Cancer Council (1), Anti-Cancer Council Vic (1), Australian Menopause Society (1), Royal Adelaide Hospital (1), Sydney University Small Grants Scheme (ARC small grants and UROGS) – Biological Sciences Panel, 1999.
2000 (9)
NHMRC (3), Australian Menopause Society (5), IMVS Adelaide Hospital Group (1)
2001 (10)
NHMRC (9), Arthritis and Orthopaedic Research Foundation (1)

Brian J Morris (33)
1999 (12)
NHMRC (6), ARC (2), NHF (4)
2000 (12)
NHMRC (6), NHMRC Fellowship (1), NHF (5), National Science Foundation, USA (1), Sylvia & Charles Viertel Charitable Foundation: Senior Medical Research Fellowship (1)
2001 (9)
NHMRC (4), NHF (2), Swiss National Sciences Foundation (1), Israel Academy of Sciences and Humanities (1), Foundation for High Blood Pressure Research Fellowship (1)

Paul Pilowsky (24)
1999 (9)
NHMRC Regional Grant Interviewing Committee, Melbourne, member, NHMRC Discipline Panel (Cardiovascular) NHMRC grants (2), NHMRC Fellowship (1), National Heart Foundation of Australia (2), National Heart Foundation of NZ (1), SIDS (1), Lottery Board NZ (1), NSAHS (1)
2000 (10)
ARC (1), Lottery Grant Board of NZ (1), NHMRC (3), NHMRC Fellowship (1), National Science Foundation (USA) (1), NHF (4)
2001 (5)
Community Health and Anti-TB Association (5)
Membership of Editorial Boards of Journals

David G Allen
Circulation Research (1993-2001)
Pflügers Archiv (1996-)

Maxwell R Bennett
Progress in Neurobiology (1998-)
Journal of the Autonomic Nervous System (2000-01)
Autonomic Neuroscience – Basic & Clinical (formerly JANS) (2001)
NeuroReport (2001-)
Neuroscience News (1999-)

David I Cook
Physiological Reviews (1999-)

Roger AL Dampney
American Journal of Physiology (Regulatory, Integrative and Comparative Physiology)
Experimental Physiology

Ulrich Grünert
Visual Neuroscience

Joseph FY Hoh
Investigative Ophthalmology and Visual Sciences (guest member 2000)

Rebecca S Mason

Brian J Morris
Genome Letters (2000-)
Hypertension (2002-)

Paul Pilowsky
Journal of Hypertension (2001-)
Respiration Physiology (2001-)
Autonomic Neuroscience: Basic and Clinical (2001-)
Anesthesia and Analgesia: Member, Reviewers Panel (1999-)
Clinical and Experimental Pharmacology and Physiology - Society Editor for the Australian Neuroscience Society (1996-)
Federation Asian and Oceanic Neuroscience Societies: Editor (1996-2001)
Australian Neuroscience Society: Editor (1995-2001)
Member, Editorial Board of ANBAC

John A Young
Pflügers Archiv (1981-)
International Journal of Oral Biology (1999-)

Higher Degree Theses examined

David G Allen (3)
1999
Univ of Melbourne (1)

2000
Monash Univ (1), La Trobe Univ (1)

2001
Univ of Oslo (1)

Maxwell R Bennett (3)
1999
Univ of Sydney (1)

2000
Flinders Univ (1), Auckland Univ

Ulrich Grünert (1)
2000
Catholic Univ Medical College, Seoul (1)

Joseph FY Hoh (1)
1999
Univ of Sydney (1)

Rebecca S Mason (5)
1999
Univ of NSW (1), Univ of Queensland (1)

2000
Univ of Sydney (1)

2001
Univ of NSW (1), Univ of Sydney (1)

Brian J Morris (2)
2000
Univ of NSW (1), Univ of Queensland (1)

Paul Pilowsky (2)
1999
Univ of Auckland (1)

2001
Univ of Melbourne (1)

Other Research Activities
Service to the University

**David G Allen**
Executive Committee, Institute for Biomedical Research, Univ of Sydney (1996-)
Laboratory Animal Management Advisory Committee, Univ of Sydney (1997-)
Sub-Dean Research (Anderson-Stuart Precinct) (2000-)
Chair, Research Management Committee, Faculty of Medicine (2000-)
Research Development Committee, Faculty of Medicine (2000-)
Research Committee of School of Biomedical Science (2001-)
Cochair, Cardiovascular and Respiratory Institutional Research Strengths Group (2000-)
Medical Foundation Building Planning Group (2001-)
Founding Chair of Cardiovascular Block of Graduate Medical Program 1995-2000

**Paul R Martin**
Faculty of Medicine and College of Health Sciences (CHS):
Chair, Combined Degree Program Committee (1999)
Chair, CHS Postgraduate Awards committee (2001)
Member, Medical Program Admissions Committee (1999)
Member, Board of Graduate Studies (2000)

**Rebecca S Mason**
University Committees:
Nominee of Academic Board for Appointment committees (1994-)
Central Promotions Committee (Level B to Level C) (1998-1999, 2001)
Academic Forum (elected member) (1997-2000)
Faculty of Medicine committees:
Undergraduate Medical Program:
Teaching, Management and Assessment committee (UMP) formerly Executive Curriculum Committee (1993-4, co-opted 1995-1999)
Graduate Medical Program:
Block Chair, Endocrinology, Nutrition and Gastroenterology Block (1995-)
Basic and Clinical Sciences Committee (1994-)
Teaching, Assessment and Curriculum Committee (Year 1 & 2 content; Content Review Group) (2001-); Deputy Chair (2001-)
Institute for Biomedical Research
Executive (2000-)
Deputy Director (2001-)

**Department of Physiology**
Secretary, Departmental Board (1991-)
Bachelor of Medical Science Advisory Committee – Physiology representative (1999)

**Faculty of Science**
Promotions Assessment Committee, Level C to Level D, External reserve member (1998-9)
Undergraduate Studies Committee (2001-)

**Community and Hospital**
Quality Control Committee, Endocrine Laboratory, Royal North Shore Hospital. (1991-2000)

**Brian J Morris**
Co-chair, Summative Exam Committee for Medicine 2 (2001)

**Paul Pilowsky**
Chair, Royal North Shore Hospital Library Committee (1997-2000)
Member, Bercovici Medal and Prize Committee – Univ of Sydney (1999)
Member, Northern Clinical School, Royal North Shore Hospital, Research Committee (2000)
Service to Professional Societies, Grant-giving Bodies or Other External Committees

**David G Allen**  
Chair, NHMRC Regional Grant Interviewing Committee (1999)  
Member, NHMRC Grant Review Panel (2001)

**David I Cook**  
Chair of the Clinical Trials Sub-Committee Royal Prince Alfred Hospital (1991-)  
Deputy Chairman, Gastrointestinal Physiology Commission of the IUPS (1993-)  
Member, Epithelial Commission of the IUPS (1999-)

**Ann Goodchild**  
Treasurer, NSW Cardiovascular Club (1999-)

**Joseph FY Hoh**  
External examiner in Physiology to the Faculty of Dentistry, National University of Singapore (Mar 2001)

**Rebecca S Mason**  
Member, NHMRC Grant Review Panel Council, Australian and New Zealand (2001)  
Council, Australian and New Zealand Bone & Mineral Society (2001-)

**Brian J Morris**  
Member, Executive Committee, High Blood Pressure Research Council of Australia (1995-01)

**Paul Pilowsky**  

**John A Young**  
Member, Council International Union of Physiological Sciences (1993-2001)  
President, Federation of Asian and Oceanian Physiological Societies (1998-)

Member, Research and Scientific Advisory Committee of the National Heart Foundation (NSW Division) (1999)  
Member, Basic Science Subcommittee, Community Health and Anti-Tuberculosis Association (CHATA) (1999)  
Member, Programme Committee International Society Developmental Neuroscience: (1997-02)

Member, Bercovici Medal and Prize Committee – Univ of Sydney (1999)

Member, Program Committee of the Australian Neuroscience Society (1999)
## Grant Funding Totals

<table>
<thead>
<tr>
<th>Granting Body</th>
<th>1997</th>
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<th>total: 5yr</th>
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<tr>
<td>NHMRC</td>
<td>1,258,890</td>
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<td>1,882,660</td>
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<td>ARC (L)</td>
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<td>NHF</td>
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<td>Ramaciotti</td>
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<td><strong>3,154,381</strong></td>
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### Abbreviations:

- **AkF**: Australian Kidney Foundation
- **ARC (L)**: Australian Research Council (large grants)
- **ARC (S)**: Australian Research Council (small grants)
- **BLO**: Business Liaison Office
- **B-Myers Sq**: Bristol Myers Squibb
- **CRC**: Cooperative Research Centre
- **Diabetic**: Diabetes Australia Association
- **DD**: Department of Defence
- **DSTO**: Defence, Science & Technology Association
- **FacMed**: Faculty of Medicine, Univ of Sydney
- **GEMRF**: Government Employees Medical Research Fund
- **NHF**: National Heart Foundation
- **NHMRC**: National Health & Medical Research Council
- **PWMFTF**: Passe & Williams Memorial Foundation Training Fellowship
- **Ramaciotti**: Ramaciotti Foundation
- **Sesqui**: Univ of Sydney Sesquicentenary Research Grants
- **USMFG**: Univ of Sydney Medical Foundation Grant
- **USRG**: Univ of Sydney Research Grant
## External Funding to Each Laboratory

<table>
<thead>
<tr>
<th>Source</th>
<th>Laboratory</th>
<th>Project Description</th>
<th>Principal Investigator(s)</th>
<th>Years</th>
<th>Funding (AUD)</th>
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<tr>
<td>NHMRC</td>
<td>Muscle Cell Function Laboratory</td>
<td>Intracellular calcium in pacemaker cells and its relation to pacemaker current</td>
<td>Allen DG, Ju YK</td>
<td>1997-1999</td>
<td>$61,000</td>
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<td>NHMRC</td>
<td>Muscle Cell Function Laboratory</td>
<td>Calcium release in skeletal muscle studied by confocal microscopy</td>
<td>Allen DG</td>
<td>1998-2000</td>
<td>$50,000/50,000</td>
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<tr>
<td>NHMRC</td>
<td>Muscle Cell Function Laboratory</td>
<td>The effect of ischaemia and reperfusion on sarcoplasmic reticulum calcium handling in the heart</td>
<td>Balnave CD, Allen DG</td>
<td>2001-2003</td>
<td>$85,000</td>
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<td>NHMRC</td>
<td>Muscle Cell Function Laboratory</td>
<td>The role of Na-Ca exchange current in cardiac pacemaker cells</td>
<td>Allen DG, Ju YK</td>
<td>2000-2002</td>
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<td>NHMRC</td>
<td>Muscle Cell Function Laboratory</td>
<td>Equipment for simultaneous confocal microscopy and patch clamping</td>
<td>Allen DG, Cook DI</td>
<td>2001</td>
<td>$50,000</td>
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<tr>
<td>ARC</td>
<td>Muscle Cell Function Laboratory</td>
<td>Measurement of calcium buffering using caged calcium</td>
<td>Allen DG</td>
<td>1999</td>
<td>$16,000</td>
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<td>NHF</td>
<td>Muscle Cell Function Laboratory</td>
<td>Role of intracellular ions in cardiac ischaemia and preconditioning</td>
<td>Allen DG, Xiao XH</td>
<td>1999-2002</td>
<td>$52,000/136,747/142,692/148,636</td>
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<td>NHF</td>
<td>Muscle Cell Function Laboratory</td>
<td>Protection of the heart for ischaemic damage: role of calcium overload</td>
<td>Allen DG, Xiao XH</td>
<td>2001-2002</td>
<td>$36,000</td>
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<td>Ramaciotti</td>
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<td>Equipment to allow simultaneous voltage clamp and confocal microscopy</td>
<td>Allen DG, Cook DI</td>
<td>2001</td>
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<td>Ramaciotti</td>
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<td>Travel grant</td>
<td>Allen DG</td>
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<td>Pfizer</td>
<td>Muscle Cell Function Laboratory</td>
<td>Therapeutic targets for ischemic heart disease</td>
<td>Allen DG</td>
<td>2001-2003</td>
<td>$215,000</td>
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## Bennett Neurobiology Laboratory

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<th>Source</th>
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<th>Principal Investigator(s)</th>
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<tr>
<td>NHMRC</td>
<td>Neurobiology Laboratory</td>
<td>Syncytial integration of autonomic transmission</td>
<td>Bennett MR</td>
<td>1997-1999</td>
<td>$65,301</td>
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<td>NHMRC</td>
<td>Neurobiology Laboratory</td>
<td>Probability of quantal secretion at neuromuscular synapses</td>
<td>Bennett MR</td>
<td>1997-2001</td>
<td>$74,801/105,310/108,746</td>
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<td>ARC Computation of transmission at autonomic synapses</td>
<td>Bennett MR, Gibson WG</td>
<td>1998, 1999, 2000</td>
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<td>ARC Computation of exterior currents and potentials for neurons, muscle fibres and arteries</td>
<td>Gibson WG, Bennett MR</td>
<td>2000, 2001</td>
<td>$ 65,000</td>
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<td>ARC Nitric oxide modulation of secretion in autonomic ganglia</td>
<td>Bennett MR</td>
<td>1998, 1999</td>
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<td>NHF Aust Secretory mechanisms at varicosities on arteries</td>
<td>Bennett MR</td>
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<td>NHF Aust Transmission at single synapses in autonomic ganglia</td>
<td>Bennett MR</td>
<td>2000, 2001</td>
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<td>NHF Aust Receptor mechanisms in the smooth muscle cells of arteries</td>
<td>Bennett MR</td>
<td>2001, 2002</td>
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<tr>
<td>USyd Sesqui Research Grant The role of calcium in facilitation of synaptic connection strengths between neurons</td>
<td>Gibson WG, Bennett MR</td>
<td>2001</td>
<td>$ 15,000</td>
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<td>Ramaciotti Confocal microscopy of varicosities</td>
<td>Bennett MR</td>
<td>1998, 1999</td>
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<td>Ramaciotti Equipment to allow simultaneous voltage clamp and confocal microscopy</td>
<td>Allen DG, Bennett MR, Cook DI</td>
<td>1999</td>
<td>$ 10,000</td>
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<td>Ramaciotti Calcium transmitter release at single activity zones</td>
<td>Bennett MR</td>
<td>1999</td>
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<td>JOHN &amp; YVONNE ALMGREN</td>
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**Burke Brain Research Laboratory**

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<td>$60,195</td>
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<tr>
<td>ARC Receptive field plasticity in visual cortices in development and maturity</td>
<td>Dreher B, Calford M, Burke W</td>
<td>1998, 1999, 2000</td>
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<td><strong>Carlile</strong></td>
<td><strong>Auditory Neuroscience Laboratory</strong></td>
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<tr>
<td>ARC</td>
<td>A psychophysical examination of the neural processing strategies underlying auditory perception of moving and stationery sounds using sensory adaptation</td>
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<td>ARC</td>
<td>Computational models of the superior colliculus</td>
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<td>NHMRC</td>
<td>The nature of auditory spatial tuning in the colliculi of the midbrain</td>
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<td>DSTO</td>
<td>Research Agreement HRTSs (Dec 95): Studentships and measurement contracts</td>
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<td>Garnett Passe &amp; Rodney Williams F’dn</td>
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<td><strong>Cook</strong></td>
<td><strong>Epithelial Transport Laboratory</strong></td>
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<td>NHMRC</td>
<td>Homocellular regulation in salivary epithelia</td>
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<td>NHMRC</td>
<td>Intracellular mechanisms controlling sodium channels in salivary duct cells</td>
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<td>NHMRC</td>
<td>Control of potassium channels in early mouse embryos</td>
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<td>NHMRC</td>
<td>Feedback regulation of sodium-dependent transporters (RD Wright Fellowship)</td>
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<td>Interactions between systems that control sodium channels in renal epithelia</td>
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<td>NHF</td>
<td>The regulation of epithelial sodium channels by Nedd4 protein</td>
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<td>NHF</td>
<td>Control of sodium channels in B lymphocytes from normotensive and hypertensive subjects</td>
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<td>NHF</td>
<td>Mechanism of Nedd4-mediated regulation of epithelial sodium channel function</td>
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<td>AKF</td>
<td>Investigation of the role of endocytosis in controlling epithelial Na⁺ channels</td>
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<td>Institution</td>
<td>Project Description</td>
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<td>Cook DI</td>
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<td>Ramaciotti Epifluorescence Microscope</td>
<td>Poronnik P</td>
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<td>Medical F'dn USyd Medical Foundation Research Fellowship</td>
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<td>USyd Inst Grant Studies of calcium signalling using adenoviruses</td>
<td>Poronnik P</td>
<td>Cook DI</td>
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**Dampney Cardiovascular Neuroscience Laboratory**

<table>
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<tr>
<th>Institution</th>
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<tr>
<td>NHMRC Brainstem control of the circulation: integrative and cellular mechanisms</td>
<td>Dampney RAL</td>
<td>1996-1999</td>
<td>$142,341</td>
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<td>NHMRC Forebrain control of cardiovascular function</td>
<td>Dampney RAL</td>
<td>2001</td>
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<td>NHF Role of angiotensin peptides and ATP in the regulation of cardiovascular neurons in the medulla oblongata</td>
<td>Dampney RAL</td>
<td>1998-1999</td>
<td>$38,000</td>
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<td>NHF Role of angiotensin AT1 receptors in the control of cardiovascular neurons in the medulla oblongata</td>
<td>Dampney RAL, Pilowsky PM, Goodchild AK</td>
<td>2000-2001</td>
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**Day Developmental Physiology Laboratory**

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<tr>
<td>NHMRC CJ Martin Fellowship: Regulation of intracellular calcium in early embryos</td>
<td>Day ML</td>
<td>1995-1999</td>
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<td>NHMRC Control of potassium channels in early mouse embryos</td>
<td>Day ML, Cook DI</td>
<td>1999-2001</td>
<td>$72,253, $75,551, $79,258</td>
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<td>ARC Changes in ion transport during polarisation of the mouse pre-implantation embryo</td>
<td>Day ML</td>
<td>2000</td>
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<td>ARC The role of ion transport systems in formation of the early mouse blastocyst</td>
<td>Day ML</td>
<td>2001-2003</td>
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<td>Wellcome Trust UK Ion channel activity and early developmental events in the pre-implantation mouse conceptus</td>
<td>Johnson MH, Day ML</td>
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<td>Ramaciotti Ion transport during development of the pre-implantation mouse embryo</td>
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<td>USyd Sesqui NSSC Expression of circadian rhythm genes in the early mouse embryo</td>
<td>Day ML</td>
<td>2001</td>
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<td><strong>Hoh</strong></td>
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<tr>
<td>NHMRC</td>
<td>Extraocular myosin heavy chain genes and oculopharyngeal muscular dystrophy</td>
<td>Hoh JFY</td>
<td>1997</td>
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<td>NHMRC</td>
<td>Regulation of extraocular myosins in craniofacial muscles</td>
<td>Hoh JFY</td>
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<td>Lucas CA</td>
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<td>Development and regulation of extraocular muscles in the rabbit</td>
<td>Hoh JFY</td>
<td>1998</td>
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<td>2000</td>
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<td>Ramaciotti</td>
<td>Molecular motors and mechanics of extraocular and laryngeal muscles</td>
<td>Hoh JFY</td>
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<th><strong>Martin</strong></th>
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<tr>
<td>NHMRC</td>
<td>Neurotransmitter receptor specificity and synaptic circuitry in the primate retina</td>
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<td>NHMRC</td>
<td>Structure and function of the third geniculocortical pathway in primates</td>
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<td>NHMRC</td>
<td>Distribution of neurotransmitter receptors on identified cell populations in the primate retina</td>
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<tr>
<td>ARC</td>
<td>Structure and function of primate retinal neurons</td>
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<td>ARC</td>
<td>Colour information processing in the primate visual system</td>
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<td>Ramaciotti</td>
<td>Multielectrode recording system for visual neurophysiology</td>
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<td>Lions</td>
<td>Brain pathways for vision (Lions NSW-ACT Save Sight and Public Health Care Foundation)</td>
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<th><strong>Mason</strong></th>
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<tr>
<td>NHMRC</td>
<td>Luminometer (equiupment)</td>
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<td>ARC</td>
<td>Role of phytoestrogens in bone biology (ARC SPIRT with Novogen Pty Ltd)</td>
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<td>Ramaciotti</td>
<td>Luminometer (equipment)</td>
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<td>Ramaciotti</td>
<td>The role of the PHEX gene in phosphate wasting disorders</td>
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<td>Faculty of Medicine</td>
<td>A culture model for bone resorbing activity</td>
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**Morris Basic & Clinical Genomics Laboratory**

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<th>Agency</th>
<th>Project Description</th>
<th>Principal Investigator(s)</th>
<th>Funding Period</th>
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<tr>
<td>NHMRC</td>
<td>Role of nitric oxide synthase in adrenocorticotropic (ACTH) induced hypertension</td>
<td>Whitworth JA, Morris BJ</td>
<td>1997 - 1999</td>
<td>$60,000</td>
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<td>NHMRC</td>
<td>Molecular genetics of essential hypertension</td>
<td>Morris BJ</td>
<td>1998 - 2000</td>
<td>$69,910 - $71,396</td>
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<td>NHMRC</td>
<td>TNF receptor 2 and iNOS genes in cardiovascular disease</td>
<td>Morris BJ</td>
<td>2001 - 2003</td>
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<td>ARC Small Grant</td>
<td>Renin enhancer knockout mouse</td>
<td>Morris BJ</td>
<td>1999 - 2000</td>
<td>$11,000 - $11,000</td>
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<td>Ramaciotti</td>
<td>Functional genomics equipment</td>
<td>Morris BJ, McAvoy J, 7 others</td>
<td>2000</td>
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<td>DONATIONS</td>
<td>Genome scan for hypertension</td>
<td>Morris BJ</td>
<td>2000</td>
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<td>Wheatley</td>
<td>Genome scan for hypertension</td>
<td>Morris BJ</td>
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### O'Neill  
**Human Reproduction Laboratory**

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<tr>
<td>NHMRC</td>
<td>The role of PAF in the establishment of pregnancy</td>
<td>O'Neill C</td>
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<td>NHMRC</td>
<td>Functional genomic analysis of the role of P53 in early embryo death after assisted reproductive technology (ART)</td>
<td>O'Neill C</td>
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### Phillips  
**Molecular Neuroscience Laboratory**

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<th>Funding Source</th>
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<tr>
<td>NHMRC</td>
<td>Role of rapsyn in postsynaptic receptor clustering</td>
<td>Phillips WD, Noakes PG</td>
<td>1998</td>
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<td>$61,031</td>
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<td>NHMRC</td>
<td>Development of functional sympathetic synapses</td>
<td>Lavidis NA, Phillips WD</td>
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<td>NHMRC</td>
<td>Characterization of a novel human neuromuscular disease associated with deficiency of the syntrophins and dystrobrevin</td>
<td>North K, Phillips WD</td>
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### Pilowsky  
**Hypertension & Stroke Research Laboratory**

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<tr>
<td>NHMRC</td>
<td>Functional specificity of bulbospinal pathways regulating blood pressure</td>
<td>Pilowsky P, Chalmers J</td>
<td>1998</td>
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<td>NHMRC</td>
<td>Equipment for intracellular recording - Inchworm vibration isolation workstation &amp; motor</td>
<td>Polowsky P, Goodchild A</td>
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<td>NHMRC</td>
<td>Equipment - integrated data acquisition system</td>
<td>Polowski P</td>
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<td>NHF</td>
<td>Central inhibitory neurons in experimental hypertension</td>
<td>Pilowsky P, Chalmers J, Goodchild A</td>
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<td>NHF</td>
<td>Role of angiotensin AT1 receptors in the control of cardiovascular neurons in the medulla oblongata (Awarded the Dorothy Frances Martin Research Award for best in Australia)</td>
<td>Dampney RAL, Pilowsky P, Goodchild A</td>
<td>2000</td>
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<td>NHF</td>
<td>How genes in the brain respond to changes in blood pressure</td>
<td>Pilowsky P, Goodchild A, Phillips JK, Dampney RAL</td>
<td>2001</td>
<td>$36,880</td>
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### External Funding
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<tr>
<td>Precise quantitation of changes in gene expression within the brain during changes in blood pressure</td>
<td>Pilowsky P</td>
<td>Goodchild A</td>
<td>2001</td>
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<td>Laryngeal abductor motoneurons in the rat</td>
<td>Pilowski P</td>
<td>Sun Q-J</td>
<td>1999</td>
<td>$62,508</td>
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<td>Excitatoty influences on laryngeal dilator motoneurons</td>
<td>Berkowitz R</td>
<td>Pilowsky P</td>
<td>2000</td>
<td>$79,286</td>
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<td>$75,618</td>
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<td>Which amino acid chemicals in the brain control blood pressure?</td>
<td>Pilowsky P</td>
<td>Chalmers J</td>
<td>1998</td>
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<td>Goodchild A</td>
<td>1999</td>
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<td>Quantitation of gene expression in hypertension</td>
<td>Pilowsky P</td>
<td>Goodchild A</td>
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<td>Role of intracellular second messengers in hypertension</td>
<td>Pilowsky P</td>
<td>Goodchild A</td>
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<td>Chemistry of nerves that control blood pressure</td>
<td>Pilowsky P</td>
<td>Morgan M</td>
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<td>Corbett real-time thermal cycler</td>
<td>Pilowsky P</td>
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<td>Equipment/Infrastructure</td>
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<td>Respiratory rhythm generating neurons in the brainstem: location, function and neurotransmitters</td>
<td>Pilowsky P</td>
<td>Chalmers JP</td>
<td>1999</td>
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**Abbreviations:**

ARC: Australian Research Council  
NHMRC: National Health & Medical Research Council  
NHF: National Heart Foundation  
DSTO: Defence, Science & Technology Association  
AKF: Australian Kidney Foundation  
NSAH: North Sydney Area Health
Recurrent Funding from University to Department

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**Formula funding based on research performance**

**Publications:**
Articles in refereed journals, 1.0 + impact factor of journal where published, up to a maximum of 6.0, and with 1.0 added for articles with > 10 pages; book chapters, 1.0 (with 1.0 added for > 10 pages); patent, 2.0; commissioned report, 2.0; editorship of a research book, 4.0; research book or monograph, 20.0.

**Grants:**
Dollar value and number of grants were compiled separately and the following weightings were applied to these values; x 2.0 for ARC, NHMRC, NIH; x 1.5 for other competitive; x 1.0 for other (e.g., contracts).

**Derivation of overall score:**
Publication score as a percentage distribution across the Department was multiplied by 4. This was added to percentage distribution for grant number and for grant dollar value. The number obtained was divided by 6 to give the final percentage.

**Research Infrastructure Block Grant**
In 1999, funding of $134 152 was provided to the Department on the basis of 1997 Commonwealth competitive grant values (Mechanism A), and was passed on to laboratories in line with their percentage of such grant funding.

In 2000, funding of $142 461 was provided to the Department on the basis of 1998 Commonwealth competitive grant values (Mechanism A), and was passed on to laboratories in line with their percentage of such grant funding.

In 2001, funding of $130 181 was provided to the Department on the basis of 1999 Commonwealth competitive grant values (Mechanism A), and was passed on to laboratories in line with their percentage of such grant funding.

**Running Costs**
In 1999 an amount for running costs of $96 500 was distributed as $3 000 per academic, $1 500 per full time research student and $750 per Honours research student.

In 2000 an amount for running costs of $102 000 was distributed as $3 000 per academic, $1 500 per full time research student and $750 per Honours research student.

In 2001 an amount for running costs of $98 500 was distributed as $3 000 per academic, $1 500 per full time research student and $750 per Honours research student.
Courses Taught
Co-ordinator of Physiology 2A and 2B(Pharmacy) PHSI2604 & PHSI2605

Physiology 2A and 2B are taught in second year of the Bachelor of Pharmacy degree, with 2A offered in the February semester and 2B in the July semester. These semesterized units were first presented in 2000 and evolved from a year-long course of Physiology. Semesterization provided an opportunity to review and re-design the curriculum in response to student surveys that identified difficulties with the sequencing of content. The new sequence provides better ‘scaffolding’ of new concepts on previous knowledge. Cross-disciplinary integration of curricula involving Physiology first occurred in 1998 when Physiology moved from first year and to second year of the Pharmacy program. The Pharmacy Co-ordinators’ Teaching Committee, of which I am a member, reviewed the integration of the second year curricula in 1999 and 2000. In response to student feedback that revealed difficulties in understanding Pharmacology and after discussions that revealed a need for stronger foundations in Physiology, the Pharmacy timetable was changed to give Physiology four lectures per week for the first half of the semester instead of the existing three. This has continued in 2001.

Formative assessments were introduced in both units of study in 1999 and continue in 2000 and 2001. Student surveys each year have revealed appreciation of these mid-semester assessments.

Teaching Research Interests
I am interested in increasing the enthusiasm of students for Physiology and in 2001 introduced into my teaching two new ideas learnt at the “Teaching of Physiology” satellite meeting of the IUPS conference in Christchurch, New Zealand in August of this year. In Physiology 2B for Pharmacy I gave the students an opportunity to direct the content of the lectures on sensory and motor systems. They handed in requests for topics they would like to find out about and I made every effort to acknowledge these areas of interest and to include them in the lectures. Secondly I presented many sample exam questions before I gave the lectures, giving clear guidance of the level of understanding required. I hope the empowerment felt by making a contribution to course content and knowing the depth of understanding required, will improve student satisfaction of my lectures.

A student survey taken in November 2001 is now being analysed and will be compared with the results of previous surveys.

Other Research or Teaching Related Activities
In 1999-2001 I carried out research on the recovery of function and remyelination of optic nerve fibres after a pressure block. This work was done in collaboration with Emeritus Professor William Burke (see his report). Most of the experimental work was done in 2000 but electron microscopy, analysis of data and writing the paper for publication are still in progress.

Other Services to the University
Promotion
I was promoted from Lecturer (half-time) to Senior Lecturer (half-time) effective January 2001. The part-time fraction was increased from 0.5 to 0.8 effective January 2001.

Teaching development
I attended the meeting entitled “Teaching of Physiology” which was a satellite of the IUPS conference in Christchurch, New Zealand in 2001.

In 1999 and 2000 I interviewed applicants for the University of Sydney Medical Program.

In 1999, 2000 and 2001 I was a departmental adviser at the enrolment centre for the Faculty of Science.

In 2000 and 2001 I scheduled members of the department for advising for the four days of Science enrolments, for assessing applications for credit and for timetable information.
The development of generic skills in scientific writing through practical physiology classes.

The development of generic skills in data handling through students to integrate in physiology.

The contribution of problem-based learning to the ability of learning physiology (and comparison with mathematics and physics).

The role of memorising and its relation to understanding in learning (and), and continual upgrading of the online assessment system.

The improvement of interpretative skills in assessments through structured tutorials.

Courses Taught

Introduction Physiology A and B

These 4 credit point units of study, which had been the basic physiology courses available to Science students, were modified substantially at the end of 1999 in order to integrate with the new 8 credit point units of study listed in 2, and also with the remaining year-long course in Dentistry.

Changes to this core included re-organization of the topic areas between semesters, so that the A units covered neurophysiology and gastrointestinal physiology (“Gut Feelings”) while the B units covered the remaining bodily systems (“Hearts and Hormones”). The teaching was divided equally between lectures and practicals/follow-up tutorials, and 50% of the marks were for continuous assessment in the form of pre-tests, oral presentations and theory tests on the practicals, and essays.

Physiology A and B

These new 8 credit point units were introduced in 2000, and, in addition to the above core, included a problem-based learning stream in which paper problems were studied in small groups, and supported by additional lectures. This was assessed for both oral and written group contributions as well as by essays and a take-home exam. Evaluations in the form of focus groups and questionnaires indicated that the new style of learning was very popular with students. Feedback has constantly been sought from the students and modifications are being made to improve the delivery of the material.

Physiology for Dentistry

The necessity to continue teaching physiology to Dentistry for an extra two years, while experiencing a substantial increase in teaching commitments in the Science units of study, resulted in some stream-lining in that course, the most significant of which was switching from an individual essay to a group poster assessment. Topics of clinical relevance to dentistry and related to the core lectures were chosen by the students, and posters were submitted once each semester. This exercise generated a great deal of interest and commitment, and posters were generally of a very high standard.

With the increase of the Web as a means of communication and a resource bank, support material has constantly been generated in the form of notices, sample questions for lectures and practical tests, explanatory notes on different concepts, and tips on concept mapping and essay writing. A large amount of supplementary material in the form of lecture summaries has also been provided.

Teaching Research Interests

The role of memorising and its relation to understanding in learning physiology (and comparison with mathematics and physics).

The contribution of problem-based learning to the ability of students to integrate in physiology.

The development of generic skills in data handling through practical physiology classes.

The development of generic skills in scientific writing through structured exercises and essays.

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Courses Taught

Bachelor of Medical Sciences
In 1999 I was involved in the restructuring of the second year of the Bachelor of Medical Sciences degree. The new second year format was to start in 2001. It would consist of 6 integrated units of study with input from Anatomy & Histology, Biological Sciences, Biochemistry, Cell Pathology, Immunology, Infectious Diseases, Microbiology, Pharmacology and Physiology. In 1999 and 2000 I spent time liaising with all these departments to produce a timetable for the second year students.

Second year, first semester coordinator Bachelor of Medical Sciences
This consists of being responsible for all problems in first semester that are not specific to a unit of study such as timetable clashes for students and/or academics, advising students on matters of a general nature, organising meetings with all unit coordinators. There is need every year to revisit the arrangements made between all the departments in order to keep the second year running as smoothly as possible.

Coordinator of Regulation of the Internal Environment BMED2503
This unit of study consists of six themes: Neural basis of homeostasis, hormonal basis of homeostasis, cardiovascular system, respiratory system, renal system and long term regulation. The departments of Anatomy & Histology, Cell Pathology, Pharmacology and Physiology teach in this unit of study. The teaching is done through lectures, practicals and tutorials. I give lectures in cardiovascular physiology and run physiology practicals and tutorials and one practical and one tutorial in cooperation with the department of Pharmacology.

Teaching in Cells and Cell Communication BMED2502 and Regulation of the Internal Environment BMED2503
In 2000 and 2001 I gave 5 lectures in cardiovascular physiology in BMED2503 and took practicals and tutorial in this unit of study. I also took practicals and tutorials in BMED2502 in human reproduction.

Teaching in Physiology 4 credit points and 8 credit points units of study
In 2000 I gave 6 lectures in cardiovascular physiology and took practicals and tutorial in both 4 credit points and 8 credit points units of study.

Teaching in the USydMP
In 2000 I took a problem base learning block – cardiovascular block – with the postgraduate medical students.
Courses Taught
Co-ordinator of Heart and Circulation
PHSI 3003, 3903
This unit of study offers an integrated treatment of the structure and function of the cardiovascular and other related systems. There are three components to the unit: lectures, practical classes and paper sessions. The main changes to this unit of study includes and alignment of topic areas in all three components. The lecture material has been repackaged into themes and each theme includes a practical and a number of research papers related to either the practical or the lecture material. These are delivered in parallel and the connection between the three components is made explicit in the course guide and in the paper session handbook. These changes have been favorably received and the students have reported, through student surveys, that this alignment has improved their learning and sparked their interest in the topic.

Assistant co-ordinator of Intermediate
PHSI 2001,2002,2101,2102
Intermediate Physiology units of study give a basic introduction of most systems in the body and serve to lay the foundations senior units of study. The introductory 4CP units (PHSI2001,2002) have been modified over the last two years to include a practical stream that is integrated with a core lecture stream. The specific changes made include a reduction in the number of theory lectures/week and alignment of core lectures topics with practical sessions, so that the practical and lecture material reinforce major concepts. This improvement takes into consideration the different learning approaches that students adopt. Constant evaluation both formally, through unit surveys, and informally through discussions with students, has shown that the improvements introduced in 2000 in the introductory stream have helped students learn. In addition final grades have improved. In addition, there is emphasis on generic skills by introducing oral presentations in tutorials and essay writing, both activities contributing to the final grade. Most of the changes initiated have been made in collaboration with the unit co-ordinator and other academics teaching involved in these units of study. In addition, I have a major role in co-ordinating the practical component of this unit. The extended units of study (PHSI2101,2102) have in a problem-based learning (PBL) stream which was introduced in 2000. Students work in small groups with a tutor on a problem, the topic of which is related to both the lecture and practical stream. The advantage to the students is that they gain a contextual understanding of physiological concepts. When asked which component of Physiology helped them learn most, an overwhelming majority listed the PBL stream. This year I was involved in the improvement of PBL tutorials and the development of more appropriate assessment. The changes, in response to student surveys, resulted in more structured tutorials and a take home exam which not only assessed PBL content but also the PBL process.

Teaching Research Interests
My broad interest in educational research is to learn more about how students learn and what motivates them to learn. I am concerned that many students adopt a surface, as opposed to a deep approach to learning. Changing learning approaches may be achieved by changing the delivery of the material taught, by making the material relevant to the student, by making explicit the connections between different streams within a unit of study and by using appropriate assessments. By changing teaching strategies it may be possible to change student learning. In addition, I am interested in how students transfer skills learnt and applied from one unit of study to another that requires similar skills. This appears particularly problematic in the area of mathematical skills and their application to Physiology. Currently, I am involved in an inter-departmental study within the Faculty of Science to investigate the factors which may influence the ability of students to apply mathematical skills in both familiar and unfamiliar situations.

Publications
Frommer M, Schneider I. Helping students integrate physiology through a newly introduced problem-based learning stream. IUPS, International Teaching Workshop, Lincoln University, Christchurch 2001. (Also presented at the Vice Chancellor’s showcase of Scholarly Enquiry in Teaching and Learning)

Grants Relating to Teaching
Faculty of Science, Inter-Departmental Research Grant (Team Member)

Other Research or Teaching Related Activities
Unit Co-ordinating Duties
Unit Co-ordinator of Heart and Circulation (PHSI3003,3903)

Other Co-ordinating duties
Co-ordinator of the BMedSc/BSc Summer Vacation Research Experience Program for 2nd and 3rd year undergraduate students

Teaching activities
Lecturing, tutoring and practical demonstrating in Intermediate Physiology, Bachelor of Medical Science, Pharmacy
Problem-based learning facilitator in the USydMP, Intermediate Physiology
Setting and marking assessments

Other Services to the University
Interviewer for the USydMP
Member of the Science Faculty Education Research Group
Research
Ann Sefton gained her MB BS from the University of Sydney in 1960, after which she undertook medical training at Royal Prince Alfred Hospital and the Royal Alexandra Hospital for Children. She showed an early interest in research – during her medical degree, she was encouraged by Professor Peter Bishop, the then Head of Department of Physiology, to undertake a BSc (Med), working on the visual system under the supervision of Bill Hayhow. Later, following her medical training, Ann returned to the Department of Physiology and completed a PhD (awarded 1966) working under the supervision of Professor Liam Burke. She was first appointed to an academic position in the Department of Physiology in 1965, and then was promoted to Senior Lecturer and Associate Professor, and in 1992 was appointed to a Personal Chair.

Ann’s contributions to vision research included some of the first observations that information is regulated by an interplay of excitatory and inhibitory mechanisms when passing from the eye to the visual cortex. Another important observation was that, in the developing visual system in the mammalian brain, significant numbers of these cells are actually lost during development, contrary to the expectation that the number would be increasing at this time. Overall, she has published 46 neuroscience research journal articles and 3 book chapters on the visual system, and in 1990 her contributions to vision research were recognised by the award of a DSc. She has supervised 8 PhD students to completion, and 25 Honours students. Many of Ann’s former students have gone on to distinguished careers in this University and elsewhere.

Teaching
Throughout her academic life, Ann has been concerned with the quality of teaching and learning in the University. She was awarded one of the inaugural awards for Teaching Excellence at the University in 1990. Even before then, Ann appreciated the problems in the way that the medical degree of the time was structured – particularly with respect to the criteria for entry and the relatively didactic teaching and passive learning in the delivery of many courses. Ann championed the idea that teaching is just a component of education and useful only to the extent that it facilitates learning. She also made fellow academics aware that one of the most important things we can do as educators is to help students develop the skills to be life-long learners. As Sub-Dean, and then Associate Dean for Curriculum Development, Ann was one of the prime movers in developing a graduate entry, problem-based learning medical degree, now known as the University of Sydney Medical Program. The degree has proved a resounding success with students and teachers alike. This year, a similarly based program commenced, and Ann also played a very large role in the development and implementation of this program as well.

In addition to her direct involvement in curriculum development, Ann has also made distinguished contributions to research in education and teaching. She has published 52 articles in refereed journals related to teaching and 20 or so in books and published conference proceedings. Her standing in education research and delivery is reflected by many invitations to consult or act as a reviewer for other Medical Schools and Departments, nationally and internationally, particularly in South East Asia, by her appointment to the Editorial Board of the journal “Focus on Health Professional Education”, and by her appointment as Deputy Chair in 1993, then Chair in 1997 of the IUPS Commission for Teaching Physiology. Finally, she has received external awards for Achievement in Education, including the prestigious Australian Award for University Teaching: Use of Flexible Learning Approaches in 1998.

Most importantly, Ann’s ability and achievements in teaching have been greatly appreciated by the innumerable undergraduate and postgraduate students whom she has taught. On the occasion that Ann received her Excellence in Teaching Award, during a Graduation Ceremony in the Great Hall, she received a standing ovation from her former students who were graduating in Medicine on that day.

Contributions to the University
As a medical student, Ann was one of the organisers of the first Lambie-Dew Oration. She was asked to give this oration in 2000, and spoke on “Reflections of a life-long learner”. She was also president of Sydney University Medical Society in 1960-61 (and subsequently was awarded Honorary Life Memberships of Sydney University Medical Society in 1991 and Australian Medical Students’ Association in 1992).

During her many years as an academic, Ann contributed in many ways to the general University and the wider community – as an anti-discrimination adviser, as Deputy Chair of the Academic Board (97-98) and Chair of the Academic Forum (98-00). A number of reports she wrote facilitated the development of many policies and facilities that tend to be taken for granted, including Equal Employment Opportunity, the Learning Assistance Centre for students, the first Child Care facilities, the University Health Service and a Vacation Child Care scheme.

Service to the Profession and Community:
Even as a medical student, Ann was a tutor for Colombo Plan students. She has been a long standing member of the Lions Save Sight Foundation and was given the Lions’ Award in 1995 for her contributions to reviewing grant submissions for the Foundation. Ann has been a member of the IUPS Commission for Teaching Physiology since 1983, and, as mentioned above, later became Deputy Chair and then Chair of this Commission. She has helped to develop and run a number of international teaching workshops since 1983. She has served on Appointment and Promotions committees for a number of Australian Universities and was a member of the Steering Committee for Chifley University, which became the University of Western Sydney (Nepean). Ann has also been active in the promotion of maths and science to girls at schools, such as North Sydney Girls High.

In 2000, Ann Sefton was made an Officer in the Order of Australia (AO), in recognition of her contributions to medical education and neuroscience research. Apart from all her professional achievements and the many honours and awards that she has received, perhaps Ann’s greatest characteristic is her personal generosity and compassion for other people. She is a person who is always willing to give her time to anyone, student or colleague, or may come to her for advice. On behalf of Ann’s many friends and colleagues, we thank her for her great contributions to the Faculty and University. Ann will, however, continue to be a member of the Department of Physiology, and we look forward to continuing to work with her for many years to come.

Roger Dampney and Rebecca Mason
Dave Davey first came to the Department of Physiology in 1974, when he was appointed as a Lecturer. Previously Dave completed his PhD at McGill University in Montreal, Canada, followed by post-doctoral positions in Bristol and Melbourne. Subsequently, he was promoted to Senior Lecturer and then Associate Professor, and was appointed Head of the Department of Physiology in 1995. He served in that position until late in 1999, at which time he was appointed as Associate Dean of the newly formed School of Biomedical Sciences in the Faculty.

Dave’s research work when he first came to the Department was in muscle physiology, and in particular muscle development and the interactions between nerve axons and their target muscles during early development. The latter work was done in collaboration with Prof. Max Bennett, and was a most successful collaboration indeed. Later, starting in the mid-80s, Dave’s research interests focussed more on neuronal function and on the regeneration of adult peripheral nerves. This phase of his research has been carried out largely in collaboration with Dr Annick Asselin. One of the most significant achievements of this work include the development of a technique for culturing adult Schwann cells (the cells that produce the myelin that surround certain nerve axons). This development allowed Dave and his colleagues to study the properties of Schwann cells in details, and to define their vital role in the regeneration of damaged axons. This work is therefore highly relevant to clinical medicine, as well as to basic science.

Apart from his research contributions, Dave has made many major contributions over many years to the Department, Faculty and University. In the Department of Physiology, he played a critical role in establishing a computer network in the early 1980s, and in fact Physiology was one of the first departments in the University to establish such a network. His considerable experience and knowledge of computing and IT has been of great benefit also to the Faculty and University. Indeed, Assoc. Prof. Simon Carlile, the Assistant Pro-Vice-Chancellor for Information Technology, is a current member of the Department of Physiology, and his early training and expertise in IT owes much to the influence of Dave Davey.

With regard to teaching, Dave in an excellent classroom teacher, with his meticulous preparation and logical presentation of difficult concepts. His approach to teaching is greatly appreciated by students, particularly those who wanted to acquire a deeper understanding of physiological mechanisms. Dave was the Honours co-ordinator for many years, and many ex-Honours students owe Dave a great deal for the help and encouragement that he gave them during that very important year.

As already mentioned, Dave was the Head of Department for several years, including the critical period of the Anderson Stuart building refurbishments. As well as the demands of being a Head of Department, he took on the extra jobs involved in the building refurbishments, and once again his great conscientiousness and meticulous attention to detail made a great contribution to the management of that project. More recently, he played a vital role also in helping to arrange the refurbishment of Prof. Max Bennett’s labs, which have recently been completed. Dave has a vast knowledge of the workings of the Faculty and the University, and this knowledge and his wealth of experience means that he is an extremely useful and generous source of advice to many people. I personally owe him a great debt of thanks for the help he has given me, and the support and help he has given to the Physiology staff in general is greatly appreciated.

Dave has also given an enormous amount of service to the Faculty and University. As the first Associate Dean in the School of Biomedical Sciences, he took on the very challenging but vitally important task of defining common goals for the school and in setting in place a plan for the future. Once again, his great knowledge of the Faculty and University has been of great benefit in this task. With regard to the University, Dave was a member of the Vice-Chancellor’s budget advisory committee, and also the staffing policy committee. He has made substantial, thoughtful and lasting contributions to the work of both these committees. He is a man who is never afraid to express his views, and on many occasions his forthrightness in stating his views have had very beneficial effects, in that they have brought to light the potential long-term consequences of policies. His ability to analyse complex issues is much admired by his colleagues, and his advice is greatly valued.

Dave’s friends and colleagues in the Department of Physiology as well as many others in the University will miss his active participation in the life of the University. He will, however, continue his association with the Department as an Honorary Associate Professor. I express on behalf of all Dave’s colleagues our great appreciation for all that he has done, and wish him every success and enjoyment in the years to come!

Roger Dampney
Head of the Department of Physiology

Retirement of Associate Professor David Davey