

# The Fellowship

The Academy Fellowship comprises 427 of Australia's leading research scientists, elected for their personal contributions to science. Fellows occupy senior positions in universities, the CSIRO and industry.

## The Fellowship, 31 March 2009:

Ada, GL	Boyle, BJ	Couch, WJ	Farquhar, GD
Adams, JM	Brennan, MH	Cowan, IR	Fenner, FJ
Allen, DG	Brent, RP	Cowling, MG	Field, LD
Anderson, BDO	Brown, G	Cowman, AF	Figgis, BN
Anderson, JM	Bruce, MI	Cox, GB	Finnigan, JJ
Andrews, TJ	Buchdahl, HA	Craig, DP	Flambaum, VV
Angus, JA	Budd, WF	Crompton, RW	Fletcher, NH
Angyal, SJ	Burdon, JJ	Crossley, MJ	Forrester, PJ
Antonia, RA	Burger, HG	Crozier, RH	Fraser, RDB
Appleby, CA	Burgess, AW	Curtis, DR	Frater, RH
Archer, M	Burgman, MA	Dance, IG	Frazer, IH
Armstrong, BK	Burke, DJ	Dancer, EN	Frederiksen, JS
Bacic, A	Burnstock, G	Dawes, IW	Freeman, KC
Baddeley, AJ	Campbell, JH	Day, MFC	Furness, JB
Badger, MR	Campbell, KSW	Day, RH	Gandevia, SC
Ball, MC	Canty, AJ	de Kretser, DM	Gani, JM
Banwell, MG	Carter, JP	Delbourgo, R	Gascoigne, SCB
Barber, MN	Caruso, F	Dennis, ES	Gibbs, AJ
Bartlett, PF	Cavill, GWK	Denton, DA	Gilbert, RG
Bartnik, RA	Celermajer, DS	Dewar, RL	Gleadow, AJW
Basten, A	Chalmers, JP	Doddrell, DM	Goodnow, CC
Batterham, RJ	Chappell, BW	Doherty, PC	Goodwin, GC
Baxter, RC	Chappell, JMA	Dopita, MA	Graham, RM
Baxter, RJ	Choo, KHA	Dracoulis, GD	Graves, JAM
Beckwith, ALJ	Clarebrough, LM	Drummond, PD	Green, DH
Bedding, RA	Clark, GM	Dunn, AR	Green, MA
Bennett, MA	Clark, RG	Durrant-Whyte, HF	Grieser, F
Bennett, MR	Clarke, AE	Easton, CJ	Griffiths, RW
Bergersen, FJ	Cockburn, A	Eastwood, MG	Grimshaw, RHJ
Berkovic, SF	Cole, ARH	Egan, JB	Groves, DI
Bilger, RW	Cole, KD	Ekers, RD	Gu, M
Birch, LC	Colless, MM	Elliott, WH	Gunning, BES
Bishop, PO	Colman, PM	Ellis, GRA	Guttman, AJ
Blanden, RV	Coltheart, M	Ellis, JG	Haddad, PR
Blevin, WR	Compston, W	Esler, MD	Hall, PG
Boardman, NK	Cook, DI	Evans, DJ	Hall, RM
Boger, DV	Cooper, DA	Evans, LT	Hannaford, P
Bond, AM	Cory, S	Evans, RJ	Hardham, AR
Boswell, RW	Costa, M	Ewens, WJ	Harrison, TM
Boyden, SV	Costin, AB	Faraone, L	Hartley, RI

Harvey, RP  
Hatch, MD  
Head, AK  
Healy, TW  
Heath, WR  
Higgins, TJ  
Hill, DJ  
Hilton, DJ  
Hinde, DJ  
Hirst, GDS  
Hobbs, BE  
Hobbs, RJ  
Hoffmann, AA  
Holliday, R  
Holloway, BW  
Holman, ME  
Holmes, AB  
Holt, PG  
Hopwood, JJ  
Horridge, GA  
Hughes, TP  
Hume, ID  
Hunter, RJ  
Hurst, CA  
Hush, NS  
Hutchinson, JE  
Hyde, BG  
Hyde, ST  
Hynes, MJ  
Imberger, J  
Israelachvili, JN  
Jacobsen, JV  
Jagadish, C  
James, DE  
Jameson, GJ  
Jeffrey, SW  
Johnstone, BM  
Jones, The Hon. BO  
Joshi, N  
Kay, BH  
Kemp, BE  
Kemp, DJ  
Kennett, BLN  
Kerr, A  
Kerr, JFR  
Kivshar, Y  
Klein, AG  
Koopman, PA  
Korner, PI  
Kotagiri, R  
Kuchel, PW  
Ladiges, PY  
Lamb, TD  
Lambeck, K  
Lance, JW  
Larkins, FP  
Law, PG  
Lay, PA

Le Couteur, KJ  
Lehrer, GI  
Letham, DS  
Levick, WR  
Lindenmayer, DB  
Lindoy, LF  
Linnane, AW  
Lovering, JF  
Lumbers, ER  
Lyons, LE  
McCloskey, DI  
McComb, AJ  
McCormick, PG  
McCracken, KG  
McCulloch, MT  
McDougall, I  
McDougall, TJ  
McElhinny, MW  
McEwan, AD  
McFadden, GI  
McFadden, PL  
MacFarlane, DR  
McIntosh, AGR  
McIntosh, RA  
McKay, BD  
Mackay, CR  
Mackay, IR  
McKellar, BHJ  
McKenzie, JA  
McLachlan, EM  
McLeod, JG  
Mai, Y  
Main, AR  
Manchester, RN  
Mander, LN  
Marcelja, S  
Marshall, BJ  
Martin, NG  
Martin, RL  
Martin, TJ  
Masters, CL  
Mathieson, AM  
Mattick, JS  
Mayo, O  
Melrose, DB  
Mendelsohn, FAO  
Metcalf, D  
Milburn, GJ  
Miller, JFAP  
Millis, NF  
Mills, BY  
Mitchell, GF  
Moodie, AF  
Moore, JB  
Moran, W  
Morrison, JD  
Morton, DC  
Mould, JR

Mulvaney, P  
Munns, RE  
Myers, RH  
Napper, DH  
Neeman, A  
Newton, JO  
Nichol, LW  
Nicola, NA  
Ninham, BW  
Norrish, K  
Nossal, Sir GJV  
Nugent, KA  
Ogilvie, Dame BM  
O'Neill, HSC  
O'Reilly, SY  
Orlowska, ME  
Osborne, MR  
Osmond, CB  
Paddon-Row, M  
Paltridge, GW  
Parton, RG  
Passioura, J  
Pate, JS  
Paterson, MS  
Paxinos, G  
Peacock, WJ  
Pearman, GI  
Pegg, DT  
Pettigrew, JD  
Phan-Thien, N  
Pickett-Heaps, JD  
Pittard, AJ  
Porter, R  
Possingham, HP  
Poulos, HG  
Powell, R  
Praeger, CE  
Quirk, JP  
Radom, L  
Ralph, JT  
Ralston, J  
Randolph, MF  
Raupach, MR  
Redman, SJ  
Reeves, PR  
Reid, AF  
Renfree, MB  
Rintoul, SR  
Ritchie, IM  
Rizzardo, E  
Robinson, DW  
Robson, R  
Rogers, C  
Rogers, GE  
Rogers, LJ  
Rubinstein, JH  
Runnegar, BN  
Sambrook, JF

Sara, VR  
Schmidt, BP  
Seneta, E  
Shine, J  
Shine, R  
Short, RV  
Shortman, KD  
Shparlinski, I  
Simmons, LW  
Simmons, MY  
Simon, L  
Simpson, ER  
Simpson, SJ  
Slatyer, RO  
Sloan, IH  
Sloan, SW  
Smith, FA  
Smith, SE  
Smyth, DR  
Snyder, AW  
Solomon, DH  
Speed, TP  
Sprent, J  
Sprent, JFA  
Sridhar, T  
Srinivasan, MV  
Stalker, RJ  
Stanley, FJ  
Stanton, RL  
Stephenson, DG  
Sternhell, S  
Stokes, RH  
Stone, J  
Strasser, A  
Street, R  
Street, RH  
Sullivan, CE  
Summons, RE  
Sutherland, GR  
Sutherland, RL  
Swan, JM  
Tam, PPL  
Tanner, RI  
Taylor, SR

The Fellowship is listed at:  
[www.science.org.au/academy/fellows/fellow.htm](http://www.science.org.au/academy/fellows/fellow.htm)

More information on each of the new Fellows is available at:  
[www.science.org.au/academy/fellows/2009.htm](http://www.science.org.au/academy/fellows/2009.htm)

Thomas, AW  
Thompson, AM  
Thompson, CJ  
Tregear, GW  
Trudinger, NS  
Truswell, EM  
Tucker, RS  
Turner, JS  
Tyerman, SD  
Tyndale-Biscoe, CH  
Underwood, AJ  
Vaux, DL  
Veevers, JJ

Vincent, RA  
von Caemmerer, S  
von Itzstein, M  
Wake, RG  
Walker, NA  
Wall, GE  
Wallace, GG  
Wallace, HR  
Walter, MR  
Wand, MP  
Wang, XJ  
Warnaar, SO

Warren, JR  
Waterhouse, PM  
Watts, RO  
Weigold, E  
Welsh, AH  
Wentrup, C  
Westoby, M  
White, GK  
White, JW  
Whitten, MJ  
Whitten, WK  
Wild, SB

Williams, JF  
Williams, JS  
Williams, R  
Williamson, R  
Williamson, RE  
Wintour-Coghlan, EM  
Wiseman, HM  
Wiskich, JT  
Withers, RL  
Womersley, HBS  
Woodall, R  
Zillman, JW

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## Corresponding Members

Andersson, B  
Atiyah, Sir M  
Attenborough, Sir D  
Bernard, J  
Bjorkman, OE  
Blackburn, EH  
Boyer, JS

Brooks, RA  
Buckingham, AD  
Connell, JH  
Cornforth, Sir JW  
Feldmann, M  
Gajdusek, DC  
Harris, Sir H

Jones, VFR  
Krebs, CJ  
Lu, Y  
May, Lord R  
Öquist, FG  
Oxburgh, Lord R  
Powell, MJD

Raven, PH  
Salpeter, EE  
Sanger, F  
Slater, EC  
Tao, T  
Zinkernagel, RM

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## New Fellows

We congratulate the following scientists who were elected to the Fellowship on 25 March 2009:

### Professor Marilyn Crowl Ball FAA

Head, Ecosystem Dynamics, Research School of Biological Sciences, Australian National University, Canberra

### Professor John Philip Carter AM FAA FIEAust FTSE

Pro Vice-Chancellor and Professor of Civil Engineering, Faculty of Engineering and Built Environment, University of Newcastle

### Professor Frank Caruso FAA

Director, Centre for Nano Science and Nanotechnology, Department of Chemical and Biomolecular Engineering, University of Melbourne

### Professor Kong-Hong Andy Choo FAA

Professor, Murdoch Childrens Research Institute, Royal Children's Hospital, Melbourne

### Professor Warrick John Couch FAA

ARC Professorial Fellow, Centre for Astrophysics and Supercomputing, Swinburne University of Technology, Melbourne

### Professor Hugh Francis Durrant-Whyte FAA FTSE

Professor of Mechatronic Engineering, School



Mike Raupach

of Aerospace, Mechanical and Mechatronic Engineering, University of Sydney

### Professor Charles Reay Mackay FAA

Director, Immunology and Inflammation Research Program, Garvan Institute of Medical Research, Sydney

### Professor Paul Mulvaney FAA FRACI

ARC Federation Fellow, Bio21 Institute, University of Melbourne

**Professor Robert Glenn Parton FAA**  
Professor of Molecular Cell Biology, Institute for  
Molecular Bioscience, University of Queensland

**Professor George Paxinos AO FAA**  
Professor, Prince of Wales Medical Research Institute,  
Sydney

**Dr Michael Robin Raupach FAA FTSE**  
Research Scientist, CSIRO Marine and Atmospheric  
Research, Canberra

**Professor Leigh William Simmons FAA**  
ARC Federation Fellow, Centre for Evolutionary  
Biology, School of Animal Biology, University of  
Western Australia

**Professor Xu-Jia Wang FAA**  
Professor of Mathematics, Centre for Mathematics  
and its Applications, Mathematical Sciences  
Institute, Australian National University, Canberra

**Professor Peter Michael Waterhouse FAA**  
ARC Federation Fellow, School of Biological  
Sciences, University of Sydney

**Professor Mark Westoby FAA**  
Professor, School of Biological Studies, Macquarie  
University, Sydney

**Professor Raymond Leslie Withers FAA**  
Professor, Research School of Chemistry, Australian  
National University, Canberra

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## Honours awarded to Fellows during the year 2008–09

**Professor Jerry Adams**  
Elected Member of the National Academy  
of Sciences (USA)

**Professor Louis Charles Birch**  
Member of the Order of Australia (AM)

**Professor Gavin Brown**  
2007 Royal Society of New South Wales Medal

**Professor Antony Wilks Burgess**  
Elected as a Fellow of the Australian Academy  
of Technological Sciences and Engineering

**Professor Robert Clark**  
2008 Australian Museum Eureka Prize for  
Leadership in Science

**Professor Matthew Colless**  
2007 Walter Burfitt Prize by the Royal Society  
of New South Wales

**Professor Peter Colman**  
2008 Victoria Prize by the Victorian Government

**Professor David Michael Doddrell**  
Member of the Order of Australia (AM)

**Professor Peter Doherty**  
NHMRC 2010 Program Grant

**Professor Michael Eastwood**  
Australian Research Council Federation Fellowship

**Professor Lorenzo Faraone**  
2008 Eureka Prize for Science in Support of  
Defence or National Security

**Professor Ian Frazer**  
2008 Balzan Prize

**Professor Robert Graham**  
NHMRC 2010 Program Grant

**Professor Martin Green**  
Inaugural New South Wales Scientist of the Year  
2008 Zayed Future Energy Prize

**Professor Richard Harvey**  
NHMRC Australia Fellowship

**Professor John Hopwood**  
2008 South Australian Scientist of the Year

**Professor Jörg Imberger**  
2008 West Australian Scientist of the Year

**Professor Chennupati Jagadish**  
Elected as a Fellow of the American Vacuum Society

**Professor Philip Kuchel**  
2008 Australian and New Zealand Society for  
Magnetic Resonance Medal

**Professor Pauline Ladiges**  
Officer of the Order of Australia (AO)

**Professor Yui-wing Mai**  
Elected as a Fellow of the Royal Society of London

**Professor Suzanne O'Reilly**  
2007 Clark Medal by the Royal Society of  
New South Wales

**Professor John Ralston**  
Officer of the Order of Australia (AO)

**Professor Stephen Redman**  
Member of the Order of Australia (AM)

**Professor Hyam Rubinstein**  
2008 George Szekeres Medal by the Australian  
Mathematical Society

**Professor Brian Schmidt**  
Elected Member of the National Academy  
of Sciences (USA)  
Elected Foreign Member of the Royal Spanish  
Academy of Science

**Professor Michelle Simmons**  
Australian Research Council Federation Fellowship

**Professor Stephen Simpson**  
2008 Australian Museum Eureka Prize for  
Scientific Research

**Professor Ian Sloan**  
Officer of the Order of Australia (AO)

**Professor David Solomon**  
2007 Sellafield Ltd Award for Engineering Excellence  
2007 NES Award for Novel Engineering Solutions by  
the Institute of Chemical Engineers

**Professor Terence Speed**  
NHMRC Australia Fellowship

**Professor Raymond Stalker**  
2008 Lifetime Contribution Award in the ATSE  
Clunies Ross Awards

**Dr Roger Summons**  
Elected as a Fellow of the Royal Society of London



Stephen Simpson

**Professor Ross Taylor**  
Companion of the Order of Australia (AC)

**Professor Gordon Wallace**  
2008 NSW Scientist of the Year Awards in the  
chemistry category

**Professor Erich Weigold**  
Member of the Order of Australia (AM)

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## Deaths since 1 April 2008

We regret to record the following deaths:

Professor Ron Drayton Brown, AO, FAA, FTSE, 31 October 2008

Professor Hans Charles Freeman, AM, FAA, FRACI, FRSC, 10 November 2008

Professor Frank William Ernest Gibson, AM, FAA, FRS, 11 July 2008

Dr Sefton Davidson Hamann, FAA, 12 January 2009

Professor Alan Mcleod Sargeson, FAA, FRS, 29 December 2008

Professor Ernie Oliver Tuck, FAA, FTSE, 11 March 2009

Dr Don Eric Weiss, OBE, FAA, FTSE, 29 July 2008

Dr (John) Paul Wild, AC, CBE, FAA, FRS, 10 May 2008

## Regional groups

The following reports for the period 1 April to 31 March 2009 have been received.

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### Australian Capital Territory

**Chair: Professor John White**



The Canberra Fellows Dining Club met with the combined academies at meetings and for dinner on five occasions in 2008. Professor Susanne von Caemmerer FAA and Dr John Passioura FAA are thanked for this. There was a good program of lectures and discussions at the dinner meetings and independently.

On 6 March, Professor David Lindenmayer FAA from the Fenner School of Environment and Society at the Australian National University (ANU) spoke in the Shine Dome on *The science underpinning the conservation and management of ecological communities*. On 29 May Professor John Richards from the ANU College of Engineering and Computer Science presented a talk, *What satellites should see: Towards operational remote sensing?* Dr Brian Walker, Honorary Research Fellow at CSIRO Sustainable Ecosystems, spoke on 31 July about *A resilience approach to an uncertain future*. Professor Bronya Keats, visiting fellow at the ANU College of Science, gave a talk on 25 September on *Genetic disorders in the Louisiana Cajuns: Finding genes and developing therapies*. On 26 February 2009 Dr John Finnigan FAA from CSIRO Marine and Atmospheric Research in Canberra gave a talk entitled *'The diabolical problem': Reconciling climate mitigation with global change*.

A public lecture in the National Academies Forum series was given on 14 August at the John Curtin

School of Medical Research by Professor Alan Hughes, Director of the Centre for Business Research and Margaret Thatcher Professor of Enterprise Studies at the Judge Business School on *Innovation systems, innovation policy and the future of university-industry knowledge exchange*. A second lecture on 19 August for National Science Week was given at the Shine Dome by Professor Brian Schmidt FAA, from the Research School of Astronomy and Astrophysics at the ANU *Taking measure of our universe*.

Another function of note during the year was the most successful and enjoyable Open Day of the Academy on 2 October. This featured talks by Professor Charley Lineweaver on astronomy and discovery in our universe and Professor Susanne von Caemmerer FAA on how plants influence Earth's climate and atmosphere. The day included guided tours by local architects and a display of items with an Antarctic theme from the fascinating collection of scientific artefacts held by the Academy.

### New South Wales

**Chair: Professor Ian Dawes**



This year saw the retirement of Professor Elspeth McLachlan FAA as the chair of the NSW Regional Group and we thank her for her sterling work and commitment to the job over the previous years. She will be a hard act to follow. The Regional Group's

main function in 2008 was an Annual Dinner held for Fellows and their guests. Fellows of the NSW branch of ATSE were invited. In a departure from more traditional venues, this was held at the Trust Suite, Sydney Cricket Ground, overlooking the hallowed turf. This proved to be a successful location and provided an opportunity for an unscheduled inspection of the pitch – with committee member Professor Max Coltheart FAA doing a great impersonation of Tony Greig. The guest speaker, Professor Stephen Simpson FAA (elected Fellow in 2007) gave a brilliant and entertaining presentation on his work which spans from the transition of grasshoppers to plague locust through to its implications for human nutrition. The evening was rounded out by a short presentation from Professor Eugenie Lumbers FAA on the planning, progress and need for input into the proposal to convert Science House in Sydney back to scientific use.

In conjunction with the NSW ATSE Fellows and the University of NSW (UNSW), the group was involved in organising the lecture and dinner at UNSW by Professor Aaron Ciechanover, following his award of an Honorary DSc at UNSW in December. Professor Ciechanover is Professor of Vascular and Tumour Biology at the Technion-Israel Institute of Technology in Haifa, Israel and is the first Professor of Medicine to win the Nobel Prize in Chemistry. Together with Avram Hershko and Irwin Rose he discovered the process of ubiquitin conjugation to proteins as part of the mechanism whereby cells break down and dispose of proteins that have defects in their structure.

## Queensland

Chair: Professor Perry Bartlett



A public forum and reception were held at the Queensland Brain Institute (QBI), The University of Queensland, on November 25 in honour of the five

Queensland scientists elected to the Academy in 2008: Professor Peter Koopman; Professor Nicholas Martin; Professor John Mattick; Professor Sven Ole Warneer; Professor Howard Wiseman.

Ms Jan Jarratt MP, Parliamentary Secretary to the Minister for Tourism, Regional Development and Industry was the government representative and spoke most enthusiastically about the Queensland Government's ongoing support for science and how the election of a large number of Fellows was viewed by the government as a cogent indicator of the success of such a policy. The President, Professor Kurt Lambeck, also addressed the audience and outlined the work and objectives of the Academy and the importance of a strong regional committee to promote the benefits of science to a wide audience.

Each of the Fellows gave short presentations of their work, which was highly appreciated by an audience of approximately 80 people. The evening concluded with a dinner for the Fellows at the QBI – 18 of the 28 Queensland Fellows were in attendance, as well as the President – and a spirited discussion across a broad range of issues related to science occurred.

## Tasmania

Chair: Dr Trevor McDougall



During the year the Fellows of the Academy joined with the Fellows of ATSE for a dinner. We also had a fascinating science talk by the newest Fellow in Tasmania, Professor Paul Haddad, on the topic *Divide and conquer: Developments in separation science*.

## Victoria

Chair: Professor Tony Klein



The annual symposium for newly elected Fellows and medal winners was held on 26 June at the University of Melbourne. Professor Tony Bacic opened the program of brief talks and was followed by Professor William Heath, Professor Geoffrey Tregear and Dr Stuart Batten. Winner of the Gottschalk Medal, Dr Gabrielle Belz was next on the program, followed by Dr Michael McCarthy winner of the Fenner Medal. The final speaker was Dr Sandra McLaren, the recipient of the Dorothy Hill Award. The symposium was followed by a dinner for Victorian Fellows and their guests, including all the presenters.

The Joint Academies' Dinner, another annual event, was held on 27 August. The guest speaker was Professor Glyn Davis, Vice-Chancellor of The University of Melbourne, who gave a very well-received address on the perennial topic *Higher education: What is to be done?*

The biennial lecture commemorating the late Dr Lloyd Rees FAA, erstwhile Chief of the CSIRO Division of Chemical Physics, was this year given by Professor Michelle Simmons FAA on 25 September on the topic *Atomic electronics: When will scaling reach its limit?*. Further information is available from the Academy's December newsletter at [www.science.org.au/newsletters/aas74.pdf](http://www.science.org.au/newsletters/aas74.pdf).

The Christmas party for Fellows and guests held on 13 November at the Observatory Café in the Royal Botanic Gardens was very well attended. Following a fine dinner, a 5-piece band playing music from the Andes on traditional instruments entertained the guests.

## Western Australia

Chair: Dr Bruce Hobbs



The President Professor Kurt Lambeck joined some of the Fellows in Western Australia on Monday 21 July at the South Perth Boatshed Restaurant. Some of the invited guests included Professors David Groves, Barry Marshall, Arthur McComb, Cheryl Praeger, Mark Randolph, Fiona Stanley and Robin Warren.

## New Chief Executive



The Academy welcomed Dr Sue Meek to the position of Chief Executive in May at the Annual General Meeting. Sue has 25 years experience working in a variety of capacities at the interface of industry, academia and government. She held the position of Australia's Gene Technology Regulator from 2001 to 2008, and was responsible for administering and enforcing the national regulatory system for the development and use of gene technology. Immediately prior to that, she was Executive Director of the Science and Technology Division at the Western Australian Department of Commerce and Trade. She is a Fellow of ATSE and of the Australian Institute of Company Directors.