

# Research conferences

The Academy supports research conferences that are organised by scientific societies to bring together researchers at the forefront of particular subjects to discuss the future directions of their field. In 2008 there were two Boden Research Conferences and a Fenner Conference on the Environment.

The Academy also administers funds provided by the Australian Government Department of Innovation, Industry, Science and Research for the Sir Mark Oliphant International Frontiers of Science and Technology Conference series.

## Boden Research Conferences for 2008

With the generous support of the late Dr Alex Boden FAA, the Academy conducts a series of small specialist conferences in the biological sciences to enable active research workers in rapidly advancing fields to discuss current advances and problems.

### *Plant energy and water productivity*

**18–20 September, Australian National University, Canberra**

Organised by: Associate Professor Barry Pogson, Australian National University; and Dr Rudy Dolferus, CSIRO Plant Industry.

Under the overarching aim of improving plant productivity, a diverse group of scientists met in Canberra to consider current research and future possibilities. The conference brought together many of the world's leading researchers in the field of photosynthesis and plant energy production. This multi-disciplinary forum looked at how to develop improved plants for agriculture and biofuel production and how to assess and manage plants in natural environments.



Photo: Stockxpert

Photosynthesis and plant productivity discussed at the Boden Conference

The conference was unique in its range of disciplines and breadth of topics whilst still focusing on the three themes: water productivity; plant energy; and plant products and biofuels. Half of the speakers were from overseas and many productive collaborations were formed.

Over 140 attended the conference with delegates coming from universities, government institutions and business. The conference's focus on plant productivity is a timely and relevant subject with the impacts of global change and world food supplies under threat. The outcome of bringing scientists together to improve plant productivity could lead to benefits for future generations.

More information on research conferences is available at: [www.science.org.au/awards/research.htm](http://www.science.org.au/awards/research.htm)

In addition to funding from the Academy, financial support was provided by CSIRO, the ARC Centre of Excellence in Plant Energy Biology, the Grains Research and Development Corporation, and the Australian Society of Plant Scientists. Proceedings of the conference are available online at [www.plantenergy.uwa.edu.au/conferences](http://www.plantenergy.uwa.edu.au/conferences).

### *Beyond the platypus genome*

**23–26 November, Victor Harbor, South Australia**

Organised by: Professor Jenny Graves FAA, Australian National University; Professor Frank Grutzner, University of Adelaide; and Dr Russell Jones, University of Newcastle.

Australia's unique monotremes the platypus and echidna are our most distant relative amongst living mammals. Comparative studies allow unique insights into early mammal evolution. The conference aimed to capture the momentum gained from the announcement of the completion of the platypus genome sequence. Existing collaborations were consolidated and new ones were fostered by bringing together researchers and students working in comparative genomics and monotreme biology. Sixty researchers, including high profile national and international speakers from England, USA, Germany and New Zealand attended the conference.



Photo: Ian Elton, Healesville Sanctuary

The 'furry bird' of the animal world, the platypus

The meeting started with talks on the composition of the platypus genome, moving to genetic and biochemical aspects of monotreme immunity, milk and venom. Presentations on population genetics, sex chromosomes and reproductive biology were followed by updates on disease and captive breeding efforts.

Professor Roger Short FAA chaired a panel discussion that sought to compose a new 4-word telegram to alert the world to amazing new discoveries that came from the genome sequence. 'Platypuses are furry birds' was

the outcome. Professor Stephen O'Brien (USA) highlighted the unique value of Australian native animals, in particular monotremes, in his inspiring after-dinner lecture.

The meeting closed with a round table discussion about funding opportunities and ways to foster interaction and communication between the diverse groups of researchers that share enthusiasm for this fascinating group of mammals.

Further information about the conference is available from [www.adelaide.edu.au/monotreme-conference/](http://www.adelaide.edu.au/monotreme-conference/).

## Fenner Conference on the Environment 2008

With the generous support of Professor Frank Fenner FAA and the late Mrs Fenner, the Academy conducts a series of environmental conferences on the environment and conservation issues in Australia and its environs. The purpose of these conferences is to bring together those with relevant scientific, administrative and policy expertise to consider current environmental and conservation problems in Australia, thereby contributing to the formation of policies that can alleviate some of these problems.

### *The art and science of good environmental decision making*

**10–12 March 2009, Shine Dome, Canberra**

Organised by: Professor Hugh Possingham FAA, University of Queensland; and Professor Ted Lefroy, University of Tasmania.

The 2008 Fenner Conference on the Environment focused on the basics of good environmental decision making with an emphasis on science and policy, prioritisation, adaptive management and cost-effective monitoring.

It brought together environmental scientists from Australia and around the world to meet with senior environmental managers from regional, state and government agencies to discuss ways to improve decision making on environmental investments and priorities. This is significant because these groups usually meet to talk amongst themselves, and don't necessarily understand the different worlds of science, policy development and environmental management. Many bridges were built that will serve as an enduring legacy of the event.

The organisers were delighted with the make up of the audience and the lively discussions happening around sessions. Two outstanding features were the level of interest and quality of questions. Initial feedback suggests it was well received, with many opportunities created for follow-up collaborations. And the theme of good environmental decision making has been given an important boost – not before time according to many delegates.

Further information about the conference is available from [www.conferenceplus.com.au/fennerconf/2009/](http://www.conferenceplus.com.au/fennerconf/2009/). For a copy of the conference book, contact Liam Gash ([Liam.Gash@utas.edu.au](mailto:Liam.Gash@utas.edu.au)) or David Salt ([David.Salt@anu.edu.au](mailto:David.Salt@anu.edu.au)).



Photo: David Salt

Delegates at the Fenner Conference take a break from decision making

## Sir Mark Oliphant Conferences

The Sir Mark Oliphant International Frontiers of Science and Technology Conference series was launched in October 2001. The announcement was made on the centenary of the birth of Sir Mark Oliphant, a Foundation Fellow of the Australian Academy of Science and the Australian Academy of Technological Sciences and Engineering (ATSE), and the first President of the Academy of Science.

The objective of the scheme is to support the goal of the Government's International Science Linkages Programme – Science Academies Programme, by providing financial support to stage strategically significant international conferences in Australia on high priority, cutting edge, multi-disciplinary themes. More specifically, to:

- promote Australian science and technology, but cutting across conventional science and technology boundaries;
- mobilise R&D on emerging technologies, providing a linkage between research providers and users;
- establish and nurture international cooperation and partnerships;
- enhance the understanding of science and technology in the Australian community;
- aim for world best practice; and
- access overseas expertise.

The conference series is managed on behalf of the Department of Innovation, Industry, Science and Research by the Academy and ATSE.

## Sir Mark Oliphant conferences in 2008

*Vaccine and immunotherapy technologies*, organised by the Academy, was held from 9 to 11 April. The conference provided a balanced and diverse insight into the rapidly evolving scientific area of vaccines and immunotherapy. It showcased the most recent high-tech basic science concepts in vaccine and immunotherapy research, and highlighted the challenges of deployment and delivery of vaccines in the real world.



Photo: © Irene Dowdy

Researchers at the front line of the war against diseases

Speakers from Australia, Asia, Europe and the US discussed the research and applied challenges that remain in the fields of vaccines and immunotherapy, but also presented current success stories such as the introduction of the first vaccine against cervical cancer. The program and proceedings are available from [www.oliphant.org.au/april2008.html](http://www.oliphant.org.au/april2008.html).

Other Oliphant conferences held in the reporting period were:

***Australian Geothermal Energy Conference***

20–22 August, Melbourne

***Medical bionics – a new paradigm for human health***

16–19 November, Lorne, Victoria

***Asia-Pacific Congress on Electron Tomography***

31 January–4 February, Brisbane

Further information about the Sir Mark Oliphant Conferences is available from [www.oliphant.org.au](http://www.oliphant.org.au).

## Conferences for 2009–10

### The Elizabeth and Frederick White Research Conference 2009

***Nuclear astrophysics in Australia***

Organised by: Professor John Lattanzio, Monash University

Dr Maria Lugaro, Monash University

### The Fenner Conference on the Environment 2009

***Healthy climate, planet and people: 'Co-benefits' for health of action on climate change***

Organised by: Professor Anthony Capon, Australian National University

Professor Janette Lindesay, Australian National University

### Sir Mark Oliphant Conferences 2009

***Sharks international***

7–11 June 2010, Cairns

Organised by: Dr Michelle Heupel, James Cook University

Administered by the Academy

***Clean, green and lean – from carbon to cleantech***

May 2010, Melbourne

Organised by: CSIRO Future Manufacturing Flagship

Administered by ATSE