



## AUSTRALIAN COURSE IN ADVANCED NEUROSCIENCE

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Submission to the House of Representatives Standing Committee  
on Industry, Science and Innovation

Inquiry into research training and research workforce issues in  
Australian universities

Submission by the  
Australian Course in Advanced Neuroscience

May 31, 2008

## **Terms of Reference Addressed by this Submission**

On April 23<sup>rd</sup>, 2008, the Minister for Innovation, Industry, Science and Research, asked the Committee to undertake an inquiry into research training and research workforce issues in Australian universities.

This submission specifically responds to the issue of research training, as addressed by the first item in the Terms of Reference, *viz*:

- The contribution of research training programs to Australia's competitiveness in the areas of science, research and innovation.

## **Summary**

This submission is made by the Management Committee of the Australian Course in Advanced Neuroscience, which is an advanced research training course for young Australian scientists.

Based on the Committee's experience in running this course, we make four recommendations that seek to ensure the future viability of courses of this type. Our recommendations are listed at the end of this submission.

## **Background**

The Australian Course in Advanced Neuroscience (ACAN) is a not-for-profit research training program.

ACAN provides training in advanced research techniques to early stage career scientists working in neuroscience. The trainees are either PhD candidates or research fellows working in their first postdoctoral research position, based at Australian or New Zealand universities or research institutes.

Australia's ability to maintain its international competitiveness in neuroscience is critically dependent on the technical proficiency of its researchers. Neuroscience research bridges biology, psychology, chemistry, physics and electronics. Researchers will be maximally effective if they are well trained in advanced research techniques.

The primary goal of ACAN is to provide young investigators with advanced laboratory skills that can be acquired only by intense interaction with experts in these techniques while using the very latest equipment. The annual, three-week, residential course provides a unique opportunity to young scientists at the start of their professional research career or during their PhD program to rapidly learn the latest and most important research techniques that will increase their lifelong research effectiveness.

Trainees' careers and Australia's international scientific competitiveness are boosted. Trainees share their new skills with their lab colleagues at their home university, thus amplifying the benefit.

ACAN is deliberately not directly affiliated with a single university, although it is held at a facility of the University of Queensland, the Moreton Bay Research Station near Brisbane.

Each year, more than twenty instructors volunteer their time to teach on the course, because they recognise the importance to future scientific research of providing first class training to young scientists. The instructors are scientists from universities around Australia, from New Zealand, from the U.S and from the U.K.

The instructors are unlikely to volunteer their time for more narrowly-conceived courses that are affiliated with a specific university.

To ensure that the training in laboratory research skills is absolutely up to date, ACAN borrows equipment from international manufacturers. This equipment is returned each year and replaced the following year with the latest offerings from each of the manufacturers. The laboratory equipment provided to the students during their ACAN training is not available at any single Australian university.

The companies that lend equipment to ACAN would not lend their expensive products to courses that are affiliated with a specific university because they know that such courses do not have the national impact enjoyed by a course like ACAN.

The governance board of ACAN consists of eminent academic neuroscientists from Australia and New Zealand and the President of the Australian Neuroscience Society.

Information about the course is disseminated by the Australian Neuroscience Society and the Neurological Foundation of New Zealand, and through department heads at universities and relevant research institutes. ACAN is further described on the web site: <http://acan.jcs.anu.edu.au/>

ACAN is unique in the neuroscience discipline in Australia, and we do not know of any organisations in Australia providing an equivalent course in another discipline. There are a small number of such courses offered in the United States and in the United Kingdom. It is our belief, based on comments from the Australian and international instructors, that ACAN is equal to the best courses offered in the U.S. and the U.K.

ACAN has been operating with great success for four years. The quality of the field of applicants is very high and there is enthusiastic support for ACAN across Australia's neuroscience research community.

To date, ACAN has been funded by philanthropists, Neurosciences Australia, the Australian Neuroscience Society, the Neurological Foundation of New Zealand and several corporate donors.

A major hurdle faced by ACAN and any future course of this type is that it does not qualify as a Deductible Gift Recipient (DGR) under the existing regulations. Lack of DGR status makes it virtually impossible to attract donations from private individuals and from most philanthropic trusts.

If ACAN were to be run exactly as it is but by a specific university instead of an independent governance body, support for the university that enabled it to manage its affairs, including the provision of the course, would be tax deductible.

A second major hurdle faced by ACAN is that there is no mechanism for the National Health and Medical Research Council (NHMRC) to contribute research training funds. This is unfortunate because the utilisation of NHMRC grant funds would be optimised if the investigators benefitted from advanced training in laboratory research skills.

Similar considerations apply to the Australian Research Council (ARC).

## **Recommendations**

The background above focuses on ACAN because this is a pioneering course that can serve as a model for how specialised training courses in advanced laboratory skills can successfully help to advance the science research capability at Australian universities.

The recommendations that follow are generalised to cover any skills training course for university researchers.

The recommendations are:

- 1) That the Inquiry acknowledges the important role to be played by discipline-specific research-training courses provided to Australian university scientists. Such research training programs contribute to Australia's competitiveness in science and research.
- 2) That the Inquiry acknowledges that advanced research training courses for university researchers can be very effectively provided by independent, not-for-profit entities.
- 3) In recognition that such research training courses exist exclusively to advance the calibre of university-based research, such courses should enjoy the same tax deductible status (*i.e.* DGR status) as a university.
- 4) Provision should be made for the NHMRC and ARC to provide a fraction of their funds to support courses that seek to improve skills that underpin research competitiveness.