



AMSI News

Geoff Prince*

Go8 CEO says research training places should be linked to ERA. We say NO!

In the three months from August to October AMSI has made submissions to three Commonwealth reviews all of which will have a major impact on Australian mathematical sciences.

The first of these is quite remarkable. The government has responded positively to Ian Chubb's call for a national STEM plan and issued a discussion paper 'Vision for a Science Nation' on how this might be achieved. This is a triumph for the Chief Scientist who has, without blinking, maintained a firm position on STEM policy. In the main the government's paper was well-considered although rather self-congratulatory of its own programs. However, the education section tip-toed around both the out-of-field teaching and the pre-requisites issues. We have been part of the consultation briefings and our submission was put together with AMSI members including the AustMS Steering Committee and Council. You can find our comprehensive submission at <http://amsi.org.au/publications/vision-for-a-science-nation-response/>.

The second review has been commissioned by the Minister for Education and Training on Australia's Research Training Programs. The main thrust of this review, by the Australian Council of Learned Academies, is concerned with broadening research training to directly address the overall low take-up of research trained staff by the Australian private sector and the low rates of engagement between the companies and the universities. This might sound scary but the consultation paper is sensible, unlike the response from the Group of Eight (Go8) Executive which goes like this: universities with disciplines which don't score three or more at the two-digit FOR code level should be denied Commonwealth funded PhD and research masters (RTS) places in those disciplines. The press pounced and announced, for example, that La Trobe and Macquarie would lose their postgraduate programs in the mathematical sciences.

All of this happened around the time of the AustMS Annual Meeting at Flinders. There was universal opposition including from colleagues at Go8 universities and, on the Steering Committee's instruction, Tim Marchant and I wrote to Vicki Thompson, the Go8 CEO. I can't reproduce the letter here but I can tell you some of our objections.

*Australian Mathematical Sciences Institute, Building 161, c/- The University of Melbourne, VIC 3010, Australia. Email: director@amsi.org.au

1. The ERA is not designed to evaluate the quality of graduate programs which generally rely on a variety of attributes which it does not measure. La Trobe is a case in point, this can be illustrated with two examples. A La Trobe PhD student won the prize for the best student talk at the Flinders meeting. Also this year Australia had 5 postgraduates (of a total of 200 internationally) selected on merit by the Heidelberg Laureate Forum organisers to attend the annual meeting with Fields medallists and other eminent prize winners. Two of the five were from La Trobe.
2. Although the Go8 proposal is based upon the two-digit FOR codes this measure would decimate programs in statistics. Statisticians publish across a range of discipline areas and so rarely reach the output threshold for assessment within the mathematical sciences. Hence the absence of a two-digit result or a score of 2 at this level would remove RTS places from the sub-discipline without the application of any effective measure of the research quality let alone of the graduate programs. Australia cannot afford this.
3. Australian graduate programs in the mathematical sciences are significantly supported by AMSI, often in conjunction with the learned societies. AMSI provides a four week residential summer school, a two-week residential winter school, a bioinformatics symposium, shared coursework subjects across our national ACE (videoconference) network and around 20 research workshops annually which attract many postgraduates and ECRs. And AMSI Intern is a national program placing PhD students into industry research internships. These programs support all mathematical sciences departments and they are most heavily patronised by the Go8. In this environment, groups too small to reach the ERA outputs threshold can successfully sustain postgraduate supervision. So there is a strong case to be made that the quality of graduate programs in the mathematical sciences should not be measured locally.
4. Even if a broader set of measures were to be applied to limit RTS places we are concerned that such a proposal will limit the agility of universities in pursuing opportunity. For example, there is currently very significant unfilled national demand in data science. Deputy Vice-Chancellors Research and deans need to be able to move quickly to build areas of strength through new appointments and allocations of RTS places and scholarships. This proposal would effectively lock disciplines out of these initiatives and any improvement in their ERA rankings.

Part of my reason for detailing these arguments is the need for advocacy by all of us in our own universities and especially in the Go8.

AMSI had already made a comprehensive and very well received submission to the review <http://amsi.org.au/publications/acola-research-training-system-review-submission/> and at the time of writing I have been invited to both private and public consultation sessions with the panel.

The last of the three reviews was again commissioned by the Minister for Education and Training, this time into the Commonwealth's research funding arrangements for the universities. This review is driven by the government's policy position on increasing the commercial returns on publicly funded research. The need to broaden

measures of impact in order to encourage industry engagement appears throughout the consultation paper. Of course the danger for the mathematical sciences is not that the ERA metrics be broadened but that ALL the new metrics be applied indiscriminately. In our submission <http://amsi.org.au/publications/research-policy-and-funding-review/> we emphasised the need to customise the basket of metrics according to the sub-discipline, for example, biostatistics through cryptography to low dimensional topology should each use applicable metrics identified by the discipline.

I have no doubt that we will see movement away from publication-based measures of impact, and the introduction of industry-engagement grant schemes for individual researchers. We should welcome these so long as the pendulum does not swing to the other extreme.

A positive wind of change is blowing at the moment. Let's hope we aren't becalmed after Ian Chubb leaves office in December.



I was a Monash undergraduate and took out a La Trobe PhD in 1981 in geometric mechanics and Lie groups. This was followed by a postdoc at the Institute for Advanced Study in Dublin. I've enjoyed teaching at RMIT, UNE and La Trobe. My research interests lie mainly in differential equations, differential geometry and the calculus of variations. I'm a proud Fellow of the Society, currently a Council and Steering Committee Member. I became AMSI director in September 2009.