AMSI News



Will this upswell become a rising tide?

Mathematics and mathematics education are undoubtedly higher on the political agenda than they were even 12 months ago. I would recommend every maths department to have a tea-room copy of the September 2007 report of the Senate Standing Committee on Employment, Workplace Relations and Education, *Quality of School Education*. Mathematics is the only specific discipline that is mentioned in the seven major recommendations:

Recommendation 3: The committee recommends that schools and school systems take particular measures to improve teacher professional development in mathematics.

There is also a shift in emphasis away from general issues of pedagogy and cultural settings towards curriculum content:

Recommendation 2: The committee recommends that the Government consider ways of restructuring teacher training courses so as to encourage and require aspiring secondary teachers to commence their studies in arts, science and other relevant disciplines before undertaking specific studies in education by degree or diploma.

In response to a submission from the Australian Association of Mathematics Teachers, paragraph 4.78 of the report says,

The committee agrees that the 'social context' of numeracy is all to the good at one level. But as students progress through the upper primary and early secondary years the enjoyment of learning maths will only become apparent when students can appreciate the measure of their own intellectual development.

The body of the report explicitly acknowledged the inputs of AMSI and ICE-EM, along with those of our allies Igor Bray, Kevin Donnelly, Wayne Read and others. In fact, by invitation, our own Jan Thomas, Garth Gaudry and Janine McIntosh appeared before the hearing of the committee in Melbourne.

The mathematical sciences have an important role to play in public policy debate. A good example, accessible to a general audience, is Ian Enting's book, *Twisted: the distorted mathematics of greenhouse denial*, http://www.amsi.org.au/twisted.php.

As further evidence that the role of mathematical science is appreciated, I was the only representative of academic science at Kevin Rudd's round table on manufacturing, in Parliament House on 10 September. I surmise that my invitation followed a visit from Senator Kim Carr, Opposition Spokesman on Innovation, Science and Research. However, I expected my voice to be in competition with

^{*}Australian Mathematical Sciences Institute, The University of Melbourne, VIC 3010. E-mail: phil@amsi.org.au

AMSI News

those of others from the biomedical and materials science disciplines. This was not the case. At the end of the day, the Leader of the Opposition repeated my figures that over the last eight years, there has been a 52% growth in demand for those qualified in mathematical sciences, along with a 34% decrease in science students taking a maths subject. Then followed a verbal promise to halve HECS charges for those entering science and maths degree programs and to further halve repayments for those subsequently employed in related areas. Should this eventuate, we have to make sure that it does not undo the positive measures undertaken by the present Minister Julie Bishop to increase funding for maths students to the universities.

Good news for AMSI

AMSI has recently been awarded a grant under the Minister's Collaboration and Structural Reform Fund, for the project, National collaboration in the mathematical sciences: Integrating research, industry and education. In effect, this will not only ensure the survival of AMSI for a few years but it will enable us to set up some important new initiatives such as a graduate industry internship scheme, similar to that of MITACS (Canada) that now annually places 120 graduate mathematics and IT interns in industry. In the same round of CASR, funding was approved for the project, National collaboration in higher-level mathematics instruction using high-speed high-bandwidth internet-based communication technology, based in the School of Mathematics and Statistics at the University of Sydney, but involving several other AMSI members. This application would not have eventuated without the access grid room infrastructure that AMSI/ICE-EM had already supported in 12 universities. Last year, the mathematical sciences were the beneficiary of another CASR grant for the project, Applied Statistics Education and Research Collaboration, based at the University of Wollongong. Again, their application planned for future use of the AMSI/ICE-EM access grid network. Over the next year, we must work together to ensure positive outcomes from this funding that totals around \$4,000,000 for the mathematical sciences. Although, unlike in many other developed countries, there does still not exist a regular government funding scheme for a broadly based research/education/outreach institute, AMSI's very existence has led to some very important spin-offs that are important for sustainability of our discipline.



Director of AMSI since 2005, Phil Broadbridge was previously a professor of applied mathematics for 14 years, including a total of eight years as Department Chair at University of Wollongong and at University of Delaware.

His PhD was in mathematical physics (University of Adelaide). He has an unusually broad range of research interests, including mathematical physics, applied nonlinear partial differential equations, hydrology, heat and mass transport, and population genetics. He has published two books and more than 80 refereed papers, including one with 150 ISI citations. He is a member of the editorial boards of three journals and one book series.

294