



President's Column

Peter Forrester*

The Australian Mathematical Society is a member of Science Technology Australia (STA). One of the events organised by STA is *Science meets Parliament*. Members of STA are eligible to support two delegates to this event, and it is recommended that these be early- to mid-career. Last year, *Science meets Parliament* was due to be held in August, but due to the federal election had to be cancelled. Starting with this year, it is intended to hold *Science meets Parliament* in March, and the 2014 event has now happened with the AustMS delegates being Bronwyn Hajek and Marcel Jackson. Both reported that it was very worthwhile. For the benefit of future delegates, they have prepared a report, including practical tips like 'bring a business card', 'have a plan for your meeting' and on dress code and punctuality. Reading from the report, on the agenda for Day 1, one sees that the theme is science communication, especially presenting your research to a wider audience, and the broader issue of successfully engaging politicians.

In relation to mathematics education, significant progress on the latter has been made by AMSI over the past few years, with highlights such as the Canberra forum 'Maths for the future: Keep Australia competitive', with keynote speaker Professor Celia Hoyles, former mathematics advisor to the British Government in February 2012. It is reasonable to suggest that the importance placed on mathematics in subsequent speeches and policy documents released by the Chief Scientist Professor Ian Chubb, for example the May 2012 document 'Mathematics, Engineering and Science in the National Interest', were influenced by AMSI's efforts. In January this year, Ian Chubb was part of a 7.30 segment on the ABC by reporter Tracy Bowden, which also featured former AustMS Council member Jacqui Ramagge and SSAI President John Henstridge. In the segment, it is pointed out that since 1995 there has been a 33 percent drop in students taking advanced maths. In addition to warning of a bleak economic future due to a serious lack of qualified workers, Professor Chubb issues a challenge to all: 'We need everybody in the tent. We need the employers indicating what they need, we need the educators making maths compellingly interesting so that people want to do it. We need the universities doing that and as well saying that in order to do certain subjects, you've got to have mathematics.'

Last month, as chair of the Decadal Plan subcommittee on Research Centres, I submitted a report to Peter Hall as chair of the steering committee. As the Decadal Plan is still to be finalised, I'll hold off on discussing details. But with respect to the issue of communication, and presenting a compelling case, there's no doubt that the formation of a national Research Centre in the mathematical sciences will require a unified effort from the broad sector. This can

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be argued to be worthwhile on a number of fronts. For example, data contained in the 2012 NSERC report 'Long-range plan for mathematical and statistical research in Canada 2013–2018' states that NSERC funded mathematical sciences institutes have a total budget of \$4.14 million in 2013–2014, with leveraging from provincial governments, universities, international agencies, commercial and industrial partners, and private contributions, measured to be four-to-one purely on the basis of cash flow.

In my previous President's Column, I speculated on some university administrators doing away with mass lecture courses in favour of prerecorded videos. I've since come to learn that this is already the case in some universities in Japan, courtesy of a recent visit by a Japanese collaborator. In brief, this is an outgrowth of what the Japanese are called *juku*—private cram schools offering after-hours lessons. According to the article 'Public good or private commodity? Mathematics education in Japan and implication for the U.S.' by Linda H.L. Furuto, this is a huge industry, with nearly 70% of all students participating by the end of year 9, and generating \$12 billion in revenue. My Japanese colleague tells me that the lessons are prerecorded and delivered over satellites, with the teachers being skilled actors who have similar status to some of the students as rock stars. The next stage has been for these same private companies to use the same actors/teachers to prepare prerecorded lectures on university level subjects, and to sell them to private universities. This also brings to mind the peculiarity of the Australian tertiary education system, where all institutions are nominally both teaching and research. Is there a market for a purely teaching university in Australia, and if so, what would it look like with respect to the mathematical sciences?



Peter Forrester received his Doctorate from the Australian National University in 1985, and held a postdoctoral position at Stony Brook before joining La Trobe University as a lecturer in 1987. In 1994 he was awarded a senior research fellowship by the ARC, which he took up at The University of Melbourne. Peter's research interests are broadly in the area of mathematical physics, and more particularly in random matrix theory and related topics in statistical mechanics. This research and its applications motivated the writing of a large monograph 'log-gases and random matrices' (PUP, Princeton) which took place over a fifteen-year period. His research has been recognised by the award of the Medal of the Australian Mathematical Society in 1993, and election to the Australian Academy of Science in 2004, in addition to several ARC personal fellowships.