



# President's Column

**Peter Forrester\***

I'm writing this just as first semester has ended. A recent email conversation with one of my colleagues indicates a level of frustration that demanding teaching loads can have with respect to one's other duties, in particular research. Part of the demand relates to the large lecture sizes in a typical undergraduate mathematics unit in Australia, which are often at historical highs. This in turn is mostly due to the federal government funding model — explicitly the base funding — which is allocated to universities for mathematics students, and then the way this funding is allocated from the central university down to the departments. The latter point was dramatically illustrated back in 2006, when the cluster funding rate rose from 1.3 (the normalisation is 1, for economics and humanities) to 1.6 (the funding rate of computing), yet there were many instances of mathematics departments receiving little or any boost to their budget.

The coupling between teaching, research, staffing and funding is a relevant point to keep in mind when pondering the merit of the federal government's proposal to cut the higher education budget as a way to partially pay for the Gonski education reforms in schools. In a media release on the issue, AMSI Director Geoff Prince makes a related point: taking money out of the tertiary sector weakens the standard of training of future school teachers. Another issue to take into consideration is one raised in the AustMS decadal plan submission relating to teaching and learning, co-authored by Leigh Wood and Dann Mallet, namely that best practice mathematics learning in the future will move away from repetition and rote practice, and towards higher level modelling and more practice-based case studies. For these reasons, let me refer back to my previous President's Column, and the report 'The Mathematical Sciences in 2025'. There are obvious challenges to implement such best practice in our university mathematics programs, and maintaining adequate staffing and funding are obvious necessary conditions.

I venture to say too, that other necessary conditions are a pulling together of our collective expertise, whether it be Pure, Applied, industry based or academic. Fortunately here the present state in the Australian mathematical sciences is on the whole very healthy. For example, the norm is to have all these aspects (and typically statistics and mathematics education too) as part of a typical colloquium program in a university mathematics department. Some of my clearest memories of my early days as an academic at La Trobe are the colloquium organized by the now ANZIAM president Phil Broadbridge relating to maths in industry, and by Robert Hunting on mathematics education. At the AustMS annual conference a very successful initiative has been to have applied mathematics plenary lectures. There's no doubt that the 56th Annual Meeting in Ballarat last year got off to

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a flying start due to the interest created by Mary Myerscough's plenary lecture 'The mathematics of honey bee house hunting: scale and complexity in modelling social insects'. Furthermore, there are also special sessions relating to applied mathematics: last year including 'Applied mathematical modelling' and 'Numerical optimization and applications'. Interests of the mathematical sciences community on important government committees—for example those administered by the ARC—are typically served by mathematical scientists with a broad range of specialities. For some time now, this has been the 'Australian Way', and it seems fair to suggest that the associated diversity and broader outlook is to the benefit of our profession.

One interesting department colloquium I attended recently was by David Clarke (Melbourne Graduate School of Education) on the topic of 'Constructing and concealing difference in international comparative research'. One point made was that generic metrics inevitably misrepresent valued performances, school knowledge and classroom practice as seen by the local community. This is important, because international cross-cultural comparative studies such as TIMSS are gaining more and more press, and influence public opinion and government policy. Most AustMS members have a professional interest in mathematics education. It is certainly then in our interest to hear more from mathematical educationalists, and conversely AustMS encourages members of the Mathematics Education Research Group of Australasia (MERGA) to join our ranks, if they haven't done so already.



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.