



President's Column

Tim Marchant*

The Federal Government has recently commissioned the Australian Council of Learned Academies to undertake a review of Australia's research training system. So it's timely to consider the performance of the mathematical sciences in training research students at the doctoral and masters by research level. Peter Johnson from Griffith University reports annually on research and Honours degree completions in the mathematical sciences at Australian universities. His data shows a total of 170 Honours and 100 PhD completions in 2013. The current level of Honours completions is about the same as that in the 1970s while PhD completions have doubled since the mid-1990s, presumably due to increased numbers of international students. As a point of comparison the total number of university completions in Australia has doubled since 2000. So the performance of Honours in the mathematical sciences, as a research training pathway degree, has been extremely poor and its future should be seriously questioned.

The research training review discussion paper canvasses a number of important issues such as alternative research training pathway degrees, skills development for industry careers and better and more consistent funding models. The Chair of the review panel, Mr John McGagh, discusses a number of these issues in *The Australian* (5/8/15), including the idea of funding based on completion rates and times, rather than the volume of completions.

What should Society members do to invigorate research training in the mathematical sciences? I think alternative pathway degrees need to be more widely offered; for example both Macquarie University and Western Sydney University have recently replaced Honours by a two-year Research Masters Degree. We also need to do more to build links with international partner universities, which will attract additional research student candidates to Australia. In terms of post-graduate employment, developing industry experience and skills is also vital for many students. AMSI Intern and the ATN Doctoral Training Centre represent successful initiatives to build industry skills but more links and interactions are needed between industry and research students in the mathematical sciences.

John Loxton, Editor of the *Bulletin of the AustMS*, has contacted me in response to the comment in my previous *Gazette* column that the focus of the *Bulletin* is pure mathematics. He points out that the *Bulletin* aims at quick publication of original research in all branches of mathematics and he would like to publish more papers with an applied focus and on modern applications to finance, security, ecology, statistics etc. I support his sentiments and encourage our members, from all areas of the mathematical sciences, to submit their work to the *Bulletin*.

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I would like to congratulate our three Society members who recently won ARC Laureate Fellowships; they are Professors Ben Andrews, Kerrie Mengersen and Trevor McDougall. These prestigious awards represent the pinnacle of research achievement in Australia and build on great success in the Laureate and Federation fellowship schemes for Society members in the last few years. This record illustrates the quality of research our members undertake and bodes well for the future.



Tim Marchant received his Doctorate from Adelaide University in 1989. After graduation he joined Wollongong University where he is currently Dean of Research and Professor of Applied Mathematics. His research areas include nonlinear optics, nonlinear waves and combustion theory. Tim is a Fellow of the Australian Mathematical Society, a Member of the Endeavour Awards selection panel and on the editorial board of *Applied Mathematical Modelling*. His other interests include playing bridge and learning Mandarin.