



# NCMS News

**Peter Forrester\***

One of the three key priorities of the Decadal Plan recommends that Australian universities should immediately plan for the staged reintroduction of at least Year 12 intermediate mathematics subjects as prerequisites for all bachelors programs in science, engineering and commerce. At almost the same time of the release of the Decadal Plan, the University of Sydney announced that by 2019 no fewer than 62 degrees will indeed require this prerequisite. In a Sydney Morning Herald article on this decision, one reads a quote from Deputy Vice-Chancellor Tyrone Carlin that it came ‘after a thorough review of the relationship between academic performance at university and the level of maths preparation of candidates prior to admission’.

Common sense tells us that poorly prepared students will struggle to make up for lost time in a mere three-year Bachelor degree. And when it comes to the job market, very recent data released by the Grattan Institute tells us that for science students, the 35% increase in domestic completion between 2008 and 2014 is making it harder for graduates to find jobs soon after graduation. The exact figure is that around half of science graduates have found work within four months, which is 17% below the average for all graduates. In a competitive market, a student just scraping through to graduation must necessarily be at a disadvantage. Accepting that the level of maths preparation at the high school level does effect academic performance, for the good of the student our education system needs to be respond by the better training at the primary and secondary level. Another of the three key priorities of the Decadal Plan relates to this point: for the sector to increase their provision of professional development for out of field teachers of mathematics and enhance their commitment to the recruitment and retention of new, properly qualified staff.

On a recent flight, I happened to be sitting next to the careers counsellor at Hampton Park secondary college in Melbourne’s outer south east. She was telling me that students are counselled to tackle intermediate mathematics in preparation for a career in engineering and the like, but all too frequently find it tough going,

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and drop back to general mathematics. We need students to be prepared in their mathematics study not just for the transition from secondary school to university, but in the progression of all years of schooling.



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. He was AustMS President from 2012 to 2014.