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## In this issue

In this issue we have two articles that in some quarters might be considered controversial. The first, *How the Marsden Fund has failed to achieve its full potential in the ESA panel: evidence of limitations in scope, biased outcomes, and futile applications*, by Karin Bryan and David Lowe, analyses the scope of proposals funded by the 'Earth Sciences and Astronomy' (ESA) panel of the Marsden Fund for the period 2004 to 2013.

They believe that the scope of proposals funded is very limited and does not reflect the full remit of the panel, with the successful projects not encompassing the research being undertaken within the earth sciences in New Zealand. This, they maintain, has resulted in a number of sub-disciplines being largely excluded. Moreover, nearly 50% of the funded proposals for the past decade have been made to just two institutions. In their paper the authors provide a number of suggestions to address these matters.

The authors have shared their findings with the Marsden Fund Council and the ESA panel convenor Professor Jarg Pettinga. The response from Professor Pettinga is shown as Appendix A of the article.

Certainly a fundamental issue at stake in this matter is one of expectations. Does fairness require that:

- (a) averaged over a number of years, each sub-discipline will receive a predetermined fraction of the funded proposals, i.e. there is some arbitrary quota for each sub-discipline; or
- (b) the probability of success per proposal is the same for each sub-discipline for research proposals of similar quality, and thus the number of successful bids per sub-discipline is affected by 'proposal pressure' (a large number of proposals relative to the number of practitioners)?

The expectation of the authors of this article is pretty much as (a) above, whereas approach (b) is the basis for Pettinga's rebuttal. The funding outcomes are going to differ depending on which approach is taken, and markedly so if some sub-discipline is subject to proposal pressure.

The nature of innovation, its role in the economy, and the role that might be expected of science and research in this was the subject of the Association's annual conference in 2010, with proceedings reported in the *Science Review*<sup>1</sup>. Some time prior to this, an article by Malcolm Menzies had considered scientific entrepreneurship and set out the parameters for the flourishing of entrepreneurial behaviour by scientists<sup>2</sup>. More recently, Tony Smale explored what is meant by innovation and the correlation between it and national culture<sup>3</sup>.

All up, it is a tricky path to success and very much dependent on a multitude of variables that need to be sequenced in an understanding environment that allows critical thinking, the asking of useful questions, teamwork, risk management, perseverance, and learning from failure.

Beginning this year, Victoria University of Wellington launched the new degree programme, the Master of Advanced Technology Enterprise (MATE). The programme sees teams of students with different discipline expertise working together as companies/innovation teams to add value to an advanced technology proposition. Supervision, mentoring and governance for the teams within the MATE programme are provided by academic staff from throughout university, and by external commercial partners.

Kate McGrath discusses the pedagogical basis for MATE in *Can you teach innovation and entrepreneurship? A new postgraduate programme*. According to the author, MATE is a 'people incubator'. It is about working with people as they learn how to leverage off other people's skills, knowledge and resources to collectively transform science and technology into high-value products that will sustain New Zealand's prosperity.

The Request for Proposals for New Zealand's National Science Challenges (NSCs) emphasises that successful proposals should 'represent a significant step change in undertaking research and delivering impact'. In *Achieving 'step changes' in science and innovation: Towards 'Pasteur's paddock'?* Troy Baisden reviews and describes a timely synthesis of two important components of the science and innovation literature relevant to the 'step change' and 'additionality' expectations in NSCs.

Modern public policy challenges are frequently complex and require the expertise of a broad range of disciplines covering both the natural and social sciences. In *Explaining uncertainty: a scientist's perspective*, Ken Baldwin provides a perspective on communicating scientific uncertainty as an aid to better government policy, which in turn will assist certainty in industry and the wider community.

Finally in this issue we again hear from Kate McGrath as she reviews Colin Jones' book *Teaching Entrepreneurship to Post-graduates*. Colin Jones is a senior lecturer in entrepreneurship at the University of Tasmania.

**Allen Petrey**  
Editor

<sup>1</sup> *New Zealand Science Review* Vol 68 (1) 2011, 52 pp.

<sup>2</sup> *New Zealand Science Review* Vol 67 (2) 2010, p. 47–52.

<sup>3</sup> *New Zealand Science Review* Vol 70 (3) 2013, p. 62–67.