
In this issue

In this issue, NZAS' Co-President Heide Friedrich, Deputy Head (Research) of the Department of Civil and Environmental Engineering at Auckland University, introduces herself and shares her thoughts on the need for scientists to take time to build relationships when attempting to tackle complex societal constructs. As Heide outlines, there is also a need to continue to advocate for diversity in science, providing opportunities for career development of emerging researchers and enabling transparent and inclusive science systems.

Mātauranga – Māori knowledge and Māori ways of knowing – encompasses traditional and contemporary knowledge and is becoming increasingly integrated into mainstream education, research, and environmental policy in New Zealand. With 'Vision Mātauranga'¹ now a critical point of engagement for researchers, what does the scientist working in this space need to know about mātauranga? In our first article, *Mātauranga and science*, Victoria University of Wellington's Ocean Mercier (Ngāti Porou) highlights what she sees to be key aspects of the discussion on how scientists work with those who hold and access mātauranga, and with mātauranga itself. In her paper, Ocean describes and explores the potential of research in which mātauranga and science connect and relate.

In *A quick look at prime numbers*, David Lillis, Senior Academic Manager at the NZ Institute of Sport, posits that our fascination with prime numbers is that the inter-relationships between them and the patterns that they appear to create are so difficult to understand. Alternatively, primes appear to exhibit both deterministic behaviours (i.e. fully determined on the basis of naturally-occurring relationships) and random behaviours (i.e. occurring by chance). David's paper explains what a prime number is, their fascination for many over the centuries, the research that has attempted to shed light on their mathematical characteristics, and what may lie ahead with future work on primes.

Current NZAS Council member, Troy Baisden delivered his inaugural professorial lecture at the University of Waikato to 17 April 2018. Troy, now Professor and Chair in Lake and Freshwater Science at Waikato University, addressed ways of improving water quality in New Zealand lakes and rivers. The lecture, initially published in *The Conversation*, is republished in the *Review* with permission.

In *Why science gets cut out of policy*, Anthony Bergin, a Senior Research Fellow at the Australian National University, indicates that science has an important role in influencing political decision-making. But he asks whether scientists understand how it needs to be delivered, or what's required from science for the development of policy and achieving consensus. He also asks whether scientists know what constitutes a solution that a policymaker can use. He points out that policymakers are operating in a political context where there are multiple goals and conflicting values. Within this context, 'science is not the new religion', and a Minister may say: 'Well, I've heard the science, but I've also heard the people.'

So scientists have to recognise that, on occasion, politics will override the science – and that there'll often be some gap between the views of experts and decision-makers when it comes to what information is credible and useful.

On evidence-informed policy he indicates that it isn't a requirement of any scientific law. Rather it's a value, and it's up to the scientific community to be prepared to fight for it in the policy process and be fearless in their convictions. This means scientists should speak truth to power, but just not tweet about it after the meeting!

Notable in the news items carried in this issue is the appointment of Professor Juliet Gerrard FRSNZ as the Prime Minister's new chief science advisor and the appointment of Professor Emeritus David Penny FRSNZ as a foreign associate of the US National Academy of Sciences. David, a former NZAS president, has also published a new book, *Evolution Now*, which is reviewed by Mike Berridge.

Finally in this issue is the tribute to Vincent Richard Gray (1922–2018). Vince, a long time NZAS Council member and climate change sceptic, is remembered by three past Association presidents 'who held the reins during parts of Vince's Council membership.'

Allen Petrey
Editor

¹ <http://www.mbie.govt.nz/info-services/science-innovation/agencies-policies-budget-initiatives/vision-matauranga-policy/?searchterm=vision%20matauranga%2A>