In this issue

In our first article, *Stratus as a voice, guide and ambassador for emerging scientists at the University of Auckland*, Debbie Hay and co-authors introduce the Stratus network. They describe the way in which it contributes to supporting more than two-hundred emerging researchers in the Faculties of Science, Engineering, and Medical & Health Sciences, and the related large-scale research institutes: the Auckland Bioengineering Institute and the Liggins Institute.

The Stratus network consists primarily of postdoctoral researchers/research fellows and lecturers, many of whom are employed on short-duration fixed-term contracts. It is independent of the university and focuses its efforts on enhancing the research environment for early- to mid-career academic staff. The authors describe Stratus' formation and how it has evolved. They note with pleasure the network initiatives that are being replicated elsewhere in New Zealand.

Who hasn't been intrigued by the reports of the discovery of planets outside of our solar system? In *A quarter century of astrophysics with Japan*, Philip Yock tells how it's done. He describes the collaborative research between Japan and New Zealand which began in February 1987 with the monitoring of a supernova in the Large Cloud of Magellan and continued until 1994.

In 1994, a second joint venture named MOA (Microlensing Observations in Astrophysics) was launched. This project, which is based at the Mt John University Observatory in Canterbury, uses a 'gravitational microlensing' technique to hunt for dark matter and extra-solar planets. The MOA project is still continuing. Indeed, after 18 years, it is still in a phase of expansion, and Philip concludes his article by outlining the project's future plans.

Following a familiar pattern of UN climate change negotiations, the 2011 Durban conference of the parties involved was concluded well after its scheduled end, after crises and last-minute drama. In *The road to Durban and beyond: The progress of international climate change negotiations*, Adrian Macey uses a political lens to view the short history of these negotiations and make sense of the outcome. His observations begin with the negotiation of the framework convention in 1992, the first multilateral treaty on climate change. Informed by the first assessment report of the Intergovernmental Panel on Climate Change, the United Nations Framework Convention on Climate Changes set out the core objective of stabilising greenhouse gas concentrations at a level that would avoid dangerous human-induced climate change.

In short order Adrian takes us through the intervening years up to the Durban meeting and its unmistakably strong political language, noting in particular New Zealand's contribution to the outcome. Looking to the future, Adrian notes that the political groundwork has been done to allow the completion of the international response to climate change. If the political will holds, and with some creative thinking, the legal framework could be sufficient to support progress into the middle of this century, without needing constant re-negotiation. 'Let's all be good', says William Tobin, who opened this year's Transit of Venus Lecture Series.

William says that we all want New Zealand to produce excellent science and scholarship. But the problem with excellence is that it's very difficult to identify in advance and an excellence-only philosophy is a miserable one. It concentrates esteem and resources on a select few who have been deemed excellent, leaving the majority deprived and despised. This is not an outcome that William believes should be promoted by a government acting for the welfare of all and keen to develop human potential for individual and societal good as well as economic benefit.

William argues that public policy should widely promote good rather than excellence and, in the age of metrics and accountability, promoting good is far less likely to produce perverse incentives. It's from the good that the excellent occasionally arises, but it's a rare and unpredictable event. He believes it is delusional to think that excellence can arise with any frequency unless there is a solid, stable and extensive base of researchers doing good work. Let government look to the good, says William. The excellent will then look after itself.

Arising from a July *Café Scientifique* presentation in Wellington, Dave Bennett considers the certainty or otherwise of the supply of oil. Dave considers the notion of Peak Oil. First advanced by M King Hubbert in relation to American domestic oil production and then applied by others to global supply, it indicates, if true, that half the world's oil supplies have now been used so that from here on it's downhill in terms of supply and uphill in terms of price.

However, Dave maintains that this is a static view of the world, which assumes that new ideas about where and how to discover oil do not emerge. It is also at variance with what is actually happening in oil exploration. He cites the 2012 BP Statistical Review of World Energy which indicates there are proven oil reserves with a life cover of 54 years and natural gas at 64 years.

Dave ascribes this growth in reserves to the generation of new ideas about where and from what it is possible to produce oil and gas, new techniques to do so, and the development of a sustainable business model by a highly educated workforce. He asserts that these developments will ensure that the world doesn't slip into misery and chaos while we wait for other technologies to emerge to pick up the energy-supply baton.

Dave believes such a sustainable business model should be applied to New Zealand's relatively under-explored potential basins. This will, however, only be achieved with rational debate about oil and gas exploration.

> Allen Petrey Editor