

## NZAS Conference 2014: Science and Society

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The annual conference of the New Zealand Association of Scientists (NZAS) took place in Auckland this year, organised by Siouxsie Wiles and Kate Hannah of the University of Auckland. It launched on Friday night, 4 April, with a public screening of the *Thin Ice* documentary on climate change, and concluded on Saturday evening, 5 April, with the presentation of the NZAS medals and awards from 2013.

Our annual conference is an excellent forum for the promotion of the key goals of NZAS: to promote the public discussion of science, to defend scientific fact, promote intellectual freedom, and encourage scientific excellence.

This time we chose to take as our focus for constructive discussion ‘Science and Society’ – the 11th National Science Challenge that was handed back to government by the Peak Panel that chose the Challenges:

*Science and Society: the need for government to facilitate greater uptake of scientific knowledge and literacy within a changing society: whether we think of that change in terms of our climate, or in terms of the ever-extending scope of our technologies.*

This challenge is so deeply engrained in the goals of our Association that we thought we should take the opportunity to reflect on what we can do as scientists, and to hear from those who already work in this space and who have developed significant expertise in communicating science and engaging the public. Perhaps part of the challenge for government, I suspect, is to work out how they can better support these people with practical expertise within the frameworks of our educational and science systems.

The day started with a plenary address from Matheson Russell, a philosopher at the University of Auckland. In light of the current Education Amendment Bill, which aims to change the structure of representation on university councils, it was very fitting to start the day with a reminder of the Critic and Conscience responsibilities of universities, both their staff and students, as outlined in the Education Act. The talks that followed included:

an exploration of Mātauranga Māori as it relates to scientific research, by Dan Hikuroa;

a history of the treatment of madness and the difficulty of research on social issues, by Cathy Colebourne;

and stories of the future gleaned from intermingling art and science in outreach with children, from Renee Liang.

The idea that scientific discovery can have unwanted social impacts was very effectively presented by Colin Gavaghan, as he discussed the potential consequences of developing a neurophysical or genetic explanation for behaviour, through the potential legal mitigation of criminal behaviour.

After lunch, in contrast, we had a line-up of some of New Zealand’s most expert practitioners of communication of and within science: from working with kids and engaging them in discovery (Chris Clay, MindLab), to Fabiana Kubke, who

introduced the audience to Creative Commons Licences, and challenged the audience to make their science accessible to the public. Paul Gardner (University of Canterbury), with a talk titled ‘Outreach for the introvert’ demonstrated ably that introversion need not be a barrier to communication; Peter Griffin, of the Science Media Centre, presented his tips on how to work effectively with the media; and Rhian Salmon (Victoria University of Wellington) challenged the scientists in the audience to take their outreach more seriously: to collect data and evaluate achievement. Shaun Hendy, Immediate Past-President of NZAS, wrapped up the talks for the day with an overview of his experiences of engaging scientists with society.

The day is not well represented by the list of talks alone. The contribution made by all the attendees was fantastic, with wide-ranging and thought-provoking discussion at the end of every talk, including several notable contributions by students. This set us up perfectly for the panel discussion at the end of the day, in which we came back to the Science and Society Challenge that is being worked on by government. Our panellists were the Chief Science Adviser to the Ministry of Business, Innovation, and Employment (MBIE), Jim Metson; Rebecca Priestley of the Science in Context programme at Victoria University; Russel Norman, co-leader of the Green Party; and Tracey McIntosh, of Nga Pae o te Māramatanga, the Māori research centre.

Each panellist articulated the importance of the Science and Society Challenge based on their own expertise and experience, with critiques of the process to-date, including comment on the inadequacies of the deficit model, and an exploration of the concept of privilege as it relates to the scientific hierarchy of knowledge. It was Russel Norman who dared to say what none of the scientists quite felt able to: that actually, science does not occupy a place of particular privilege in a country where the Prime Minister claims to be able to find a scientist to say whatever he wants, at will.

Does any of this discussion translate into outcomes? The issues covered at our previous two conferences are still with us. There is still no nationally competitive funding for postdocs, since the FRST postdoctoral fellowships were disestablished in 2011. We have pointed out that while postdocs will still exist in established laboratories that can afford to fund them, there is nothing in the system to incentivise the movement of postdocs into new areas of research, which limits innovation. The Minister still believes that the number of postdocs has not reduced: I would like the numbers to be compared for contracts of a minimum of two years’ duration, below which a postdoctoral position has limited value for career progression, and very little attractiveness compared to fellowships available overseas. Indeed, this is the key point that has still not been addressed: in an international market, we need to be attracting ambitious young people back at the postdoctoral stage of their careers. I don’t make this argument solely on behalf of academia, where we can attract early-career researchers back into academic jobs, but for start-up companies looking for people with independent

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research skills – surely we can do more to develop those skills here?

Last year we took as our challenge the need to talk about the value of science from a non-economic perspective, in response to the persistent creep of our science-funding mechanisms towards commercially oriented research. The idea of science for public good, we found, was often better articulated by those outside of science than by those within it. Commercially oriented research, with the potential for short-term returns, is of course valuable to our economy: but we should worry about moving in the direction of guaranteed short-term returns, with the current increase in emphasis on industry co-funding of science. This starts to beg the question as to whether what we are funding is still science.

This year, one could say we were spoilt for choice of topic. There is a lot of change ongoing in our science sector: the dis-establishment of one of our CRIs and the impending closure of a major campus at another; the creation of Callaghan Innovation, which retains only 80 or so of the 300 scientists who worked at Industrial Research, and which has effectively become a funding agency; the National Science Challenges – though about these we still know very little. The first one, on High-value nutrition, has been announced, but with very little more detail than the original title we were given over a year ago.

The last word, on all these matters, and indeed on the topic of the conference, was given to our award winners for 2013. After a brief presentation from the Minister of Science and Innovation, Hon Steven Joyce, who promised – tantalisingly – that the National Statement of Science Investment will be coming out soon, the awards were presented and each Medal or Award winner was given the opportunity to speak about their science.

Dr Simon Lamb, the Science Communicator Award winner, discussed his own personal motivations for spending six years on a documentary about climate change: saying that in the end, he simply wanted to be able to tell his daughter one day that he had done what he could. It was a refreshing counterexample to the motivations cynically ascribed to scientists in the public sphere.

Dr Noam Greenberg, the winner of the Research Medal, gave a very thoughtful presentation of his work in the mathematics of computability; going as far as writing on the whiteboard, in a very thorough and well considered effort to communicate a very abstract field of work.

Our team of Shorland medallists from Landcare Research was represented by Dr Graham Nugent, who spoke about the great impact of their practical work in the area of biodiversity: from trapping pests, to understanding the toxicology of 1080 and other poisons. It was an excellent demonstration of the importance of the teamwork and sustained effort in public good research that our Crown research institutes support, and was concluded with a comment to the effect that good applied research of this kind is undervalued in New Zealand.

A contrasting comment came from the Marsden medallist, Professor Barry Scott, from Massey University. He spent much of his time reflecting on the scientists that he had mentored over his career, with laudable awareness of their current quandaries, including the difficult situation faced by women in science in Japan. However, one of his final concerns was the decreasing value placed in New Zealand on the ‘currency of science’: publications.

While these two observations from our medallists initially seemed contradictory, I felt that they are in fact experiences that arise from a common concern: the shift in our funding system towards science with short-term commercial value – which is to say, away from a system in which both applied and fundamental projects could be assessed with respect to their quality alone. There is a common confounding factor in both cases: will this project make money?

I’d like to finish my thoughts on the day on a positive note, and I have a wealth of material to choose from, based on emails and comments from the attendees. The following three quotes are representative of feedback I have received today, all from first-time NZAS conference attendees.

*‘I very much enjoyed the conference and it made me realise that I was not alone in the way I viewed many aspects of science.’*

*‘It was so exciting to meet other scientists and hear talks that have the same values and principles and passion as mine.’*

*‘I am keen to re-engage with the science community – first step will be joining the NZAS.’*

Finally, I am very grateful to Kate Hannah and Siouxsie Wiles for making this year’s conference such a great success.