Working Paper 2014/15

MSI Science Investment Board: Legislation, Operations and Board Membership

MCGUINNESS INSTITUTE
TE HONONGA WAKA

Title	*Working Paper 2011/15 – MSI Science Investment Board: Legislation, Operations and Board Membership* This paper supports Project 2058's Report 9: Government-funded Science under the Microscope
Citation	Please cite this publication as: McGuinness Institute (2011). *Working Paper 2011/15 – MSI Science Investment Board: Legislation, Operations and Board Membership.* [online] Available at: https://www.mcguinnessinstitute.org/publications/working-papers [Accessed date]. 978-1-877473-84-5 (PDF) This document is available at www.mcguinnessinstitute.org and may be reproduced or cited provided the source is acknowledged.
Author	McGuinness Institute (previously Sustainable Futures Institute)
Research team includes	Wendy McGuinness
For further information	McGuinness Institute Phone (04) 499 8888 Level 1A, 15 Allen Street PO Box 24222 Wellington 6011 New Zealand www.mcguinnessinstitute.org
Disclaimer	The McGuinness Institute has taken reasonable care in collecting and presenting the information provided in this publication. However, the Institute makes no representation or endorsement that this resource will be relevant or appropriate for its readers' purposes and does not guarantee the accuracy of the information at any particular time for any particular purpose. The Institute is not liable for any adverse consequences, whether direct or indirect, arising from reliance on the content of this publication. Where this publication contains links to any website or other source, such links are provided solely for information purposes and the Institute is not liable for the content of any such website or other source.
Publishing	The McGuinness Institute is grateful for the work of Creative Commons, which inspired our approach to copyright. Except where otherwise noted, this work is available under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International Licence. To view a copy of this licence visit: creativecommons.org/licenses/by-nc-nd/4.0 creative commons

MSI Science Investment Board: Legislation, Operations and Board Membership

Wendy McGuinness

1. Purpose

The purpose of this working paper is to provide a background on the composition of the Ministry of Science and Innovation (MSI) Science Board. To this end we provide information on the directorships and affiliations, both past and present, of the eight individuals who sit on the board, as well as information on their areas of research interest and publicly expressed opinions on matters of possible relevance. An analysis of the information presented in this working paper will be included in the Institute's Report 9: *Government-funded Science under the Microscope*.

This report forms part of the Institute's *Project 2058*, the strategic aim of which is to promote integrated long-term thinking, leadership and capacity-building so that New Zealand can effectively seek and create opportunities, and explore and manage risks, over the next 50 years. In order to achieve this aim, the *Project 2058* team is working to:

1. Develop a detailed understanding of the current national planning landscape, and in particular the government's ability to deliver long-term strategic thinking;
2. Develop a good working relationship with all parties that are working for and thinking about the 'long-term view';
3. Recognise the goals of iwi and hapū, and acknowledge te Tiriti o Waitangi;
4. Assess key aspects of New Zealand's society, asset base and economy in order to understand how they may shape the country's long-term future, such as government-funded science, natural and human-generated resources, the state sector and infrastructure;
5. Develop a set of four scenarios to explore and map possible futures;
6. Identify and analyse both New Zealand's future strengths and weaknesses, and potential international opportunities and threats;
7. Develop and describe a desirable sustainable future in detail; and
8. Prepare a *Project 2058* National Sustainable Development Strategy.
(SFI, 2009: 3)

2. Methodology

2.1 Data collection

The aim of this working paper is to support Report 9: *Government-funded Science under the Microscope* by compiling publicly available evidenced-based information on current MSI Science Investment Board members for the purpose of assessing the Board's potential influences and direction.

Wendy McGuinness is the founder and chief executive of the Sustainable Future Institute. She holds a BCom from the University of Auckland and an MBA from the University of Otago, and has also studied environmental science at Massey University. As a Fellow Chartered Accountant (FCA) specialising in risk management, Wendy has worked in both the public and private sectors. In 2004 she established the Sustainable Future Institute as a way of contributing to New Zealand's long-term future. Wendy also sits on the boards of the New Zealand Futures Trust and the Katherine Mansfield Birthplace.

Wendy is a member of the Royal Society, has been a member of two FRST reference panels assessing applications on the risks of genetic modification, was a member of the Ministry for Economic Development Buy Kiwi Made Campaign reference group 2006–2007 and has a number of personal business interests. Her interest in the quality of investment decisions with regard to the possible testing and release of genetically modified organisms in the environment led her to join in the successful court action *Bleakley v Environmental Risk Management Authority* (ERMA) AP177/00 (2 May 2001), and to include a project on genetic modification in the work programme of the Institute. Two of the three reports within *Project Genetic Modification* have been published: *The History of Genetic Modification in New Zealand* (SFI, 2008a) and *The Review of the Forty-nine Recommendations of the Royal Commission on Genetic Modification* (SFI, 2008b). A third, *The Future of Genetic Modification in New Zealand*, is on hold until the HSNO (Methodology) Regulations 1998 review, which was begun in 2002, has been finalised.

Two steps were undertaken in the process of formulating this paper:

1. Scanning: An online literature review of relevant publications, associations and published opinions was undertaken.
2. Assurance: A copy of the draft working paper was sent to all board members with an invitation to correct any errors and supply further information they may like to have included. The Institute is very appreciative of the time that the board members who reviewed this paper gave, and we thank them for their involvement.

2.2 Limitations and Boundaries

The Institute acknowledges the following limitations and boundaries around compiling this information:

The information on directorships that has been listed is that which is available from the Companies Office website and is within the scope of this paper. If a company has been listed as struck off[1] by the Companies Office then that has been noted in this paper. We understand that some of these companies may be entities for private investment, and any analysis discussed in Report 9: *Government-funded Science under the Microscope* will be based on publicly available information only.

This working paper details numerous positions held by the eight board members which span a wide range of companies and organisations. Given the frequency with which changes occur, we note that this paper was current at the date of publication. Any affiliations and dates provided in the table that are unreferenced have been taken from the Companies Office website; all others are referenced.

3. MSI Science Board Legislation and Responsibilities

On 20 December 2010, the Research, Science, and Technology Act 2010 was passed:

> (a) to establish boards to make independent funding decisions in respect of the allocation of specified expenses appropriated for the purposes of research, science or technology, or related activities:
>
> (b) to repeal the Foundation for Research, Science and Technology Act 1990:
>
> (c) to provide for the transfer of employees, assets, and liabilities from the Foundation for Research, Science and Technology to a new department of State:
>
> (d) to provide for the transfer of employees from the former department to a new department of State:
>
> (e) to provide for savings in relation to contracts with the Foundation for Research, Science, and Technology, consequential amendments, and other savings and transitional matters. (NZ Govt, 2010)

Section 10 of the Act provides for the establishment, functions and duties of the boards, and Section 10(1)(a) notes that the 'Minister must establish, by notice published in the *New Zealand Gazette*, one or more boards'. In the *New Zealand Gazette* of 31 January 2011, the formation of the Science Board was announced as it relates to the Research, Science, and Technology Act 2010. The Minister of Research, Science and Technology, Wayne Mapp, stated:

> I specify that the Science Board will be responsible for making decisions for funding used predominantly by research organisations. Funding decisions made by the Science Board will enable New Zealand research organisations to conduct high-quality research that creates economic, social and environmental benefits for New Zealand. (DIA, 2011: 179)

In late May 2011, the Ministry of Science and Innovation (MSI) *Statement of Intent: 2011-2014* was released, in effect setting out how the MSI intends to enact the legislation operationally. In its *Statement of Intent*, the Ministry outlines its vision of 'high performing science and innovation systems improving New Zealanders' wealth and well-being' (MSI, 2011a: 11). Further to this vision, the government has set two priority outcomes that MSI must work towards achieving: (i) Growing the economy; and (ii) building a healthier environment and society. The government has described what success would look like below:

1 The Companies Office defines struck off as 'any company that has been removed from the register will be known as "struck off". If a company has been struck off the register the company name becomes available for use again' (Companies Office, 2011).

(i) Growing the economy: We will know we are successful if:

- The absolute value of Business Expenditure on R&D (BERD) increases. BERD was $1,013 million in 2010.
- BERD as a percentage of GDP increases. BERD as a percentage of GDP was 0.54 percent in 2010.
- The number and aggregate value of businesses that are defined as technology intensive increases. This measure will be developed further but, as an interim step MSI tracks the number of businesses defined as performing R&D. In 2010 it was 2,818.
- The value of New Zealand exports that are based upon high technology products grows. In 2000 the value of high- and medium/high-technology exports from New Zealand were NZ$4.45 billion. (MSI, 2011a: 12; Statistics NZ, 2011 cited in MSI, 2011a: 12)

(ii) Building a healthier environment and society: We will know we are successful if:

- There is increased use of the results of research funded through Vote Science and Innovation in environmental, health and social policy making, regulation and service delivery by relevant government departments and regional councils.
- Case study information shows that Vote Science and Innovation funded research has led to improvements in environmental, health and social policies, regulation and service delivery.
- Annual reporting information shows increases in the levels of co-funding by relevant government agencies, district health boards and regional councils in the research funded by MSI within the Environment, Health and Society funds. (MSI, 2011a: 14)

4. The Operation of the Board

Under the Research, Science and Technology Act 2010, the Minister has established a Science Board and an Innovation Board to make funding decisions in respect of some of the non-departmental appropriations administered by MSI, and to provide strategic advice to MSI as requested. For some expenditure, the Boards have delegated investment decision making to other funding decision makers including regional business partners and MSI.

The Science Board came into effect on 1 February 2011. Since that time, the Board has met on a number of occasions to review applications for funding and to make decisions on the approval of applications. The Ministry of Science and Innovation's website is currently under development. When completed over the next few months, the MSI expects to regularly publicise information on successful investment applications.

There are a total of six funds for which the boards may make funding decisions. The *New Zealand Gazette* of 31 January 2011 specifies which funds each board is able to access and states:

> The Science Board can make funding decisions within the following Funds (government output expenses) [refer Table 1 below] when using one of the investment tools above [refer Table 2, p. 5]
>
> - Biological Industries Research
> - High Value Manufacturing and Services Research
> - Energy and Minerals Research
> - Environmental Research (DIA, 2011: 180) [This relates to Envirolink, a technology transfer scheme in place in partnership with regional councils.]
> - Hazards and Infrastructure Research
> - Health and Society Research (where not administered by the HRC) (DIA, 2011:193)

Table 1 outlines the allocations that the Government's Budget 2011 has made to the six funds, as well as the total funding available. The total Core Crown Spending forecast for 2011/12 is just under $73 billion (Treasury, 2011), which means the two boards combined have access to 0.45% of total Core Crown Spending for the year.

Table 1: Core Crown Spending forecast for 2011/12
Source: J. Ivens, personal communication, 15 July 2011

Funds available	Science Board	Innovation Board	Monetary value of fund 2011/12
Biological Industries Research Funds	✓	✓	$104,819,000
Environmental Research Funds	✓	✓	$35,315,000
High Value Manufacturing and Services Research Funds	✓	✓	$157,204,000
Energy and Minerals Research Funds	✓		$11,997,000
Hazards and Infrastructure Research Funds	✓		$13,459,000
Health and Society Research (where not administered by the HRC) Funds	✓		$7,069,000
Total funds available to both Boards			$329,863,000
Total Core Crown Spending 2011/12			$72,794,000,000
Percentage of total Core Crown Spending available to the Science and Innovation Boards			0.45%

5. MSI Science Board: Policy objectives and board members

Having set out the six main funds available to the Science Board in Table 1, Table 2 outlines the three investment tools which can guide the Board's decision-making, and the assigned weighting with which each criteria should be applied (as detailed in *The New Zealand Gazette*). The existing set of *Gazette* notices, and criteria in these notices, are expected to be replaced in October 2011. This is to take place before the next funding round in December, 2011 (MSI, 2011b). Table 3 lists the eight members who sit on the MSI Science Investment Board, their brief career histories, directorships and affiliations, and any evidence of opinion as reported in the media.

For Table 3, all board members were sent draft copies of this report on June 14 2011, and where the Institute received feedback from members, all changes were incorporated in Table 3. Board members from whom we have not received feedback are identified by asterisks (**); if differing information is received once the report has been published the online edition will be amended as appropriate to ensure accuracy.

In Report 9: *Government-funded Science under the Microscope*, we intend to compare the criteria that the board members have been asked to apply when making funding decisions (Table 2) with the background information about the board members (Table 3) and discuss how this relates to possible opportunities and challenges which exist within the government-funded science system.

Table 2: Science Board Tools

Adapted from New Zealand Gazette (DIA, 2011)

Tool 1: Long-term Non-contestable Funding		
Eligibility Criteria	**Policy Objectives**	**Judgement Criteria (Weighting)**
The majority of funding to be targeted at research organisations, in particular, Crown Research Institutes, Universities and Independent Research Associations.	• To generate economic, environmental or social benefits for New Zealand. • To support RS & T with the potential to create and support large-scale, long-term programmes of research, science and technology that deliver sector strategies and outcomes important to government.	Note: No judgement criteria have been specified for this investment tool, but there are specific parameters specifying that entities will become accountable for producing outcomes by using implementation pathways that aim to maximise benefits for New Zealand, and delivering research, science and technology that meets appropriate international standards.

Tool 2: Science-led Contestable Funding

Eligibility Criteria	Policy Objectives	Judgement Criteria (Weighting)			
		Benefits to New Zealand		**Risk Management or Success Factors**	
		1. Outcome benefits to New Zealand Key question: Assuming this project is successful, what is the potential contribution it will make to the achievement of target outcomes?	**2. RS & T benefits to New Zealand** Key question: Will the research be of high science quality and build or retain capabilities of potential future benefit for New Zealand?	**3. Implementation pathway** Key question: What is the likelihood the team will successfully have the research implemented?	**4. Ability to deliver RS & T results (outputs)** Key question: What is the likelihood the team will achieve their proposed research outputs?
Entities must have the capability to provide basic-targeted and/or applied research, science and technology. **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view. **Applied research** is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective. (University of Oxford, 2011)	This tool will fund RS & T that has the potential to: • enhance the productivity of established industries; • generate new industries for New Zealand; • add new value to public services in New Zealand; or • develop world leading technological capabilities by supporting research programmes to develop technology able to support a wide range of applications, products and services.	Specific parameters: Investments tend to be short to medium term, focus on excellent research and the majority would be led by research organisations, in particular Crown Research Institutes, Universities and Independent Research Associations.			

The Board must apply the following weightings below to the above four judgement criteria

Assessment Criteria	Applied Medium-term	All Short-term	Basic Targeted
Economic, social or environmental benefits to New Zealand	**25%**	**10%**	**15%**
Research, science and technology benefits to New Zealand	**25%**	**50%**	**35%**
Implementation pathway	**25%**	**5%**	**15%**
Ability to deliver research results	**25%**	**35%**	**35%**

<table>
<tr><th colspan="5">Tool 3: Partnerships</th></tr>
<tr><th>Eligibility Criteria</th><th>Policy Objectives</th><th colspan="3">Judgement Criteria (Weighting)</th></tr>
<tr><td rowspan="6">Partnering arrangements led by research users and involving research organisations. The proposed RS & T must address a specific user problem or opportunity for which solutions are likely to increase productivity and profitability; incorporate clearly defined pathways for implementation and commercialisation for their intended research outcomes; and build the research, science and technology capability and innovation potential of the user.

Note: Central and local government agencies are not eligible (although they can contribute to partnering arrangements).</td><td rowspan="6">To invest in RS & T and related activities that increase competitiveness in New Zealand industry by increasing investment in RS & T through the development of on-going partnerships with research organisations. The partnerships should:
• provide for early and on-going user engagement in RS & T so as to increase the likelihood of developing successful commercial applications from research outcomes; and
• develop user-capability in engaging productively with researchers, thereby encouraging an increase in the level of private investment in New Zealand-based RS & T.</td><td colspan="2">Benefits to New Zealand</td><td colspan="2">Risk Management or Success Factors</td></tr>
<tr><td>1. Outcome benefit to all New Zealanders
Key question:
Assuming this project is successful, what is the potential contribution the consortium will make to the achievement of target outcomes?</td><td>3. RS & T benefits to New Zealand
Key question:
Will the research be of high science quality and build or retain capabilities of potential future benefit for New Zealand?</td><td>2. Implementation pathway (to outcomes)
Key question:
What is the likelihood the consortium will successfully have the research implemented?</td><td>4. Ability to deliver RS & T results (outputs)
Key question:
What is the likelihood the consortium will achieve their proposed research outputs?</td></tr>
<tr><td colspan="4">Specific parameters: At least 50% cash co-funding from private sector is required during the life of the contract with an annual contribution.</td></tr>
<tr><td colspan="4">The Board must apply the following weightings below to the above four judgement criteria</td></tr>
<tr><td colspan="3">Assessment Criteria</td><td>Weight</td></tr>
<tr><td colspan="3">Outcome benefits to New Zealand</td><td>25%</td></tr>
<tr><td colspan="3">Implementation pathway</td><td>25%</td></tr>
<tr><td colspan="3">Research, science and technology benefits to New Zealand</td><td>25%</td></tr>
<tr><td colspan="3">Ability to deliver</td><td>25%</td></tr>
</table>

Table 3: Brief Career Histories, Directorships and Affiliations, and Publicly Expressed Opinions of MSI Science Board Members

Note: * means Board Member has received the first draft and provided feedback. ** means Board Member was emailed first draft but no feedback was received.

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Professor Sir David Skegg* (Chair) Dunedin Appointed for 3 years	• **2004–31 July 2011** Vice-Chancellor, University of Otago • **1980–2004** Professor and Head of Department of Preventive and Social Medicine, University of Otago	• **2005–present** Trustee, AAW Jones Charitable Trust# • **2004–present** Trustee, Alexander McMillan Trust# • **2004–present** Director, Te Tapuae o Rehua Ltd# • **2004–present** Director, University of Otago Holdings Ltd# • **2004–2009** Director, University of Otago Foundation Studies Ltd • **1992–1995** Chair, Public Health Commission • **1991–1994** Chair, Health Research Council of New Zealand • Advisor to the World Health Organization (WHO) on reproductive health and research # Note: Positions above marked by a hash are ex officio appointments for the Vice-Chancellor, which will cease on 31 July 2011 when Sir David steps down from this role.	**Research Field:** Cancer, contraceptive and drug safety, HIV/AIDS, preventive and social medicine, and public health. Specialist in epidemiology. **Opinion:** 'As the demography of New Zealand changes, it is clear that the future prosperity and well-being of this country will depend on ensuring that Māori and Pacific young people can achieve their full potential through higher education. At Otago there was continued progress in implementing our Māori Strategic Framework in 2010.' (University of Otago, 2010a: 15)

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Professor Richard Blaikie* Christchurch Appointed for 2 years	• **2011** Appointed University of Otago's Deputy Vice-Chancellor, effective December 2011 • **2008–present** Director, MacDiarmid Institute • **2002–2008** Deputy Director, MacDiarmid Institute for Advanced Materials and Nanotechnology • **2006–present** Professor of Microelectronics and Nanofabrication, Department of Electrical and Computer Engineering, University of Canterbury • **2003–2004** Associate Professor of Microelectronics and Nanofabrication, Department of Electrical and Computer Engineering, University of Canterbury • **1999–2003** Senior Lecturer, Microelectronics and Nanofabrication, Department of Electrical and Computer Engineering, University of Canterbury • **1995–1998** Lecturer, Microelectronics and Nanofabrication, Department of Electrical and Computer Engineering, University of Canterbury	• Member, Marsden Fund Council# • Member, Royal Society of New Zealand# • Member, Institute of Physics# • Member, Institute of Electrical and Electronics Engineers (IEEE) (professional organisation)# • Founding member, Nanostructure Engineering, Science and Technology research group, University of Canterbury# # Note: The specific years are unknown for positions above marked by a hash.	**Research Field:** Nanofabrication, nanotechnology, optical communications, semiconductor devices and sub-wavelength optics **Opinion:** 'Teaching is a vital part of being an academic, and I want to undertake this part of my job with the same level of rigour and commitment to excellence that I hope I bring to my research.' (University of Canterbury, n.d.)

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Denise Church* Wellington Appointed for 2 years	• **2001–present** Company director, consultant and executive coach, Leadership Matters Ltd • **1996–2001** Chief Executive, Ministry for the Environment (MfE) • **1993–1996** Director of Public Affairs, Royal Society for the Protection of Birds, UK • **1991–1993** Business Issues/Corporate Communications Manager, British Gas plc., London	• **2010–present** Member, Wellington City Council Controlled Organisation Performance Committee (3-year appointment) • **2010 (August–September)** Chair, Benthic Impact Standard Committee for Ministry of Fisheries • **2008–2011** Board Member, Foundation for Research, Science and Technology • **2007–present** Member, Ako Aotearoa Board • **2007–2009** Chair and trustee, Wellington Zoo Trust; prior to 2007, trustee and Deputy Chair • **2006–present** Chair, World Wide Fund for Nature New Zealand; prior to 2006, trustee and later Deputy Chair • **2004 (April–July)** Chair, Board of Inquiry into the Proposed National Pest Management Strategy for Varroa Bee Mite • **2003–present** Convenor, Ethics Advisory Panel for the Environmental Risk Management Authority (ERMA) • **2001–2007** Director, Landcare Research	

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Professor Peter Hunter** Auckland Appointed for 3 years	• Professor of Engineering Science; and Director, Auckland Bioengineering Institute, University of Auckland (Auckland Bioengineering Institute, n.d.)# # Note: The specific years are unknown for positions above marked by a hash.	• Chair, Marsden Fund# • Director of Computational Physiology, Oxford University# • President, Physiological Society of New Zealand# • Co-Chair, Physiome Committee of the International Union of Physiological Sciences# • Secretary-General and Fellow, World Council for Biomechanics# • Fellow, Royal Society of New Zealand# • Fellow, American Institute for Medical and Biological Engineering# • Fellow, International Academy of Medical and Biological Engineering# • Honorary Fellow, Institution of Professional Engineers of New Zealand (IPENZ)# (Auckland Bioengineering Institute, n.d.) # Note: The specific years are unknown for positions above marked by a hash.	**Research Field:** Computational modelling of the human body and its functions, from tissue structure to mechanical, electrical and cellular activity (Auckland Bioengineering Institute, n.d.) **Current Research Projects:** Biomechanics for breast imaging; cardiac electromechanics; cardiac electrophysiology; cardiac mechanics; computational fluid mechanics; immune/lymphatic system; musculo-skeletal system; physiome project; skin project; special sense organs; systems biology and cell modelling; tissue structure. (Auckland Bioengineering Institute, n.d.) CellML project (CellML, 2001)

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Dr Wendy Nelson* Wellington Appointed for 3 years	• **2002–present** Programme leader and Principal Scientist, NIWA • **1987–2002** Curator, Museum of New Zealand Te Papa Tongarewa • **1983–1986** Senior Fisheries Management Officer, Scientist, Ministry of Agriculture and Fisheries • **1981–1983** Scientist, New Zealand Oceanographic Institute, DSIR	• **2000–2008** Member, New Zealand Conservation Authority • **1996–present** Council member, Asia Pacific Phycology Association • **1994–2000** Member, Cawthron Institute Trust Board Fellow, Royal Society of New Zealand New Zealand Marine Sciences Award and Life member, New Zealand Marine Sciences Society Member and former President, Australasian Association for Phycology and Aquatic Botany Member and former President, Systematic Association of New Zealand	**Research and Specialist Field:** Biodiversity and biosystematics: marine phycology, particularly the biosystematics of macroalgae of New Zealand, with research on floristics, evolution and phylogeny, as well as ecology, and life history studies (NIWA, 2008)

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Dr William Rolleston**** Canterbury Appointed for 3 years	• **1988–present** Co-founder, co-owner and Production Director of South Pacific Sera Ltd, a farm-based biologicals company that exports to pharmaceutical and biotech companies around the globe (Partnering for Innovation, 2009; SPS, n.d.).	• **2011–present** Vice-president, Federated Farmers of New Zealand. Prior to July 2011, Provincial President for South Canterbury, Federated Farmers (Federated Farmers, 2011a; Federated Farmers, 2011b) • **2010–present** Director, Aoraki Development and Promotions Ltd • **2005–present** Director & shareholder, GRB Infrastructure Ltd • **2005–present** Director & shareholder, SPS Biomedia Ltd • **2005–present** Director & shareholder, SPS Cell Culture Ltd • **2004–present** Director, Velvet Antler Research New Zealand • **2002–2003** Director, Covita Ltd • **1994–present** Director, Transgenic Proteins New Zealand Ltd • **1990–present** Director & shareholder, NZ-UK Medical Locums Ltd • **1990–present** Director & shareholder, Program Management Ltd • **1988–present** Director & shareholder, South Pacific Sera Ltd • **1987–present** Director & shareholder, Blue Cliffs Homestead Ltd	**Opinion:** 'Any release of a GM organism requires approval by the Environmental Risk Management Authority. This hurdle is already high and further expensive regulation is unnecessary, unwarranted and will stifle innovation and choice.' (William Rolleston, cited in LSN, 2007) 'GM offers opportunities to improve the sustainability of our agriculture such as better nutrient uptake resulting in reduced nutrient leaching and reduced water demand allowing more water to stay in our rivers. With GM we have a real chance to control, even eradicate a number of our pests. GM has the potential to deliver far more sustainability than the organics industry could ever hope to achieve. So why does the Green movement shun this new technology?' (Rolleston, 2005) 'People expect me to be a guy who has no conservation values at all. But I'm quite the opposite. I think GM gives us opportunities to conserve – and I use the word conserve, not preserve – our natural heritage. If we can use these tools wisely, we are all going to be better-off.' (William Rolleston, cited in Oliver, 2001)

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
		• Chairman, The Life Sciences Network[2] (NZBio, 2008)# • Member, NZBio Advisory Council (NZBio, 2008)# • Member, Industry/MAF Animal Biosecurity Consultative Committee (Mapp, 2009)# • Board member, Foundation for Research, Science and Technology (FRST, n.d.)# # Note: The specific years are unknown for positions above marked by a hash.	
Professor Charles Royal** Auckland Appointed for 2 years	• **2009–present** Director, Department of Ngā Pae o te Māramatanga (National Institute for Research Excellence for Māori Development and Enhancement), University of Auckland Faculty of Arts (Ngā Pae o te Māramatanga, 2009) • **1996–2002** Director, Graduate Studies and Research at Te Wānanga o Raukawa, Ōtaki (Royal, 2006) • **1990–1994** Freelance researcher, Department of Internal Affairs, Department of Conservation, Te Wānanga o Raukawa (Royal, 2006) • **1987–1990** Researcher, Royal Commission on Social Policy, MfE (Royal, 2006)	• **1995–2009** Director, Mauriora-ki-te-ao/Living Universe Ltd • Deputy Chair, SOUNZ Music Centre Board (SOUNZ, n.d.)# • **2005–2008** Member, Oxygen Group (established by MoRST in 2005 as a forum for bright young scientists) (MoRST, 2010) • Chair, Winston Churchill Memorial Trust (Royal, 2006)# • Chair, Vision Mātauranga Advisory Group (MoRST) (Royal, n.d.)# • Board member, Fulbright New Zealand (Royal, 2006)# • Board member, Māori Heritage Council of the New Zealand Historic Places Trust (Royal, 2006)# • Board member, New Pacific Studio (Royal, 2006)# # Note: The specific years are unknown for positions above marked by a hash.	**Research Field:** The creative potential of mātauranga Māori, particularly as this relates to the whare tapere (traditional houses of performing arts), the whare wānanga (traditional institutions of higher learning) and indigeneity (Ngā Pae o te Māramatanga, 2009). Theories of knowledge and worldview (Ngā Pae o te Māramatanga, 2009) **Opinion:** On a new $1.5m research initiative examining the values of te reo Māori: 'In studying the value of language and attempting to answer the question as to why the language should continue to live in our country, we expect that this research will bring new people to the language and assist in increasing understanding and fluency … The Māori language enriches the lives of all New Zealanders in small and large ways. The value of that enrichment, both actual and potential, has yet to be understood and articulated. However, in time, this valuable research will join with other initiatives in refreshing efforts to uplift the language and enable it to be a national treasure.' (Charles Royal, cited in ACORE, 2010)

2 The Life Sciences Network has made submissions at a number of ERMA hearings relating to HSNO applications. These applications include, but are not limited to, GMF99004, GMD02028, GMF06001 and GMF03001. The Hearings Schedules which list the Life Sciences Network as a submitter for these applications are available from ERMA on request. The Sustainable Future Institute or Institute representatives also made submissions at these hearings.

MSI Science Investment Board Members (MSI, n.d.)	Brief Career History	Directorships & Affiliations (Past and present)	Evidence of Opinion and Areas of Research Interest
Professor Warren Tate**** Dunedin Appointed for 2 years	• **1975–present** Professor of Biochemistry, University of Otago (University of Otago, 2010b)	• Fellow, Royal Society of New Zealand • Fellow, New Zealand Institute of Chemistry • Former Fellow, Alexander von Humboldt Foundation of Germany • International Research Scholar of the Howard Hughes Medical Institute of the United States (University of Otago, 2010b)	**Research Field:** Understanding protein synthesis and, in particular, decoding and recoding mechanisms on the ribosome at stop signals (University of Otago, n.d.) The molecular mechanisms of mammalian memory and how they are impaired in human neurological diseases, particularly Alzheimer's (University of Otago, n.d.) **Opinion:** On being awarded the Rutherford Medal: 'It has long been my ambition to contribute to the growth and evolution of New Zealand science. The award is an outstanding testimony to the contributions of more than 100 highly talented research students, many of whom now have successful international or national careers in science' (Warren Tate, cited in University of Otago, 2010b).

References

Association of Centres of Research Excellence (ACORE) (2010). *New $1.5m research initiative examines values of Te Reo Māori*. Retrieved June 10, 2011 from http://www.acore.ac.nz/news/new-15m-research-initiative-examines-value-te-reo-m%C4%81ori

Auckland Bioengineering Institute (n.d.). *Peter Hunter*. Retrieved May 31, 2011 from http://www.abi.auckland.ac.nz/uoa/peter-hunter

CellML (2001). *The CellML project team*. Retrieved June 1, 2011 from http://www.cellml.org/community/team

Companies Office (2011). *Glossary*. Retrieved July 6, 2011 from http://www.business.govt.nz/companies/help-support/glossary/#S

Department of Internal Affairs (DIA) (2011). *Supplement to New Zealand Gazette, 27 January 2011, No. 9*. Establishment of Innovation Board and Science Board and other related notice: Pursuant to the Research, Science and Technology Act 2010, pp. 177–209. Retrieved May 9, 2011 from http://www.dia.govt.nz/pubforms.nsf/NZGZT/Supplement_MORST9Jan11.pdf/$file/Supplement_MORST9Jan11.pdf

Federated Farmers of New Zealand (2011a). *Federated Farmers elects new national board*. Retrieved July 6, 2011 from http://www.fedfarm.org.nz/n3057.html

Federated Farmers of New Zealand (2011b). *South Canterbury*. Retrieved May 24, 2011 from http://www.fedfarm.org.nz/southcanterbury

Foundation for Research, Science & Technology (FRST) (n.d.) *About us: Governance*. Retrieved June 8, 2011 from http://www.frst.govt.nz/about-us/governance

Life Science Network (LSN) (2007). *GM regulation waste of money, LSN says*. Retrieved May 25, 2011 from http://www.nzbio.org.nz/default.aspx?page=news&news=1576

Mapp, W. (2009). *New faces on the Foundation board*. Retrieved June 9, 2011 from http://www.waynemapp.co.nz/index.php?/archives/174-New-faces-on-Foundation-board.html

Ministry of Research, Science & Technology (MoRST) (2010). *Oxygen Group members*. Retrieved June 2, 2010 from http://www.morst.govt.nz/current-work/oxygen-group/members

Ministry of Science and Innovation (MSI) (2011a). *Statement of intent 2011-2014*. Retrieved June 3, 2011 from http://www.parliament.nz/NR/rdonlyres/1C279A5D-042B-4978-9DCE-C332150C9185/192707/DBHOH_PAP_21470_ScienceandInnovationMinistryofTePu.pdf

Ministry of Science and Innovation (MSI) (2011b). Personal correspondence: Bella Sutherland and Diane White (SFI) on 30 August 2011.

Ministry of Science and Innovation (MSI) (n.d.). *MSI Investment Boards*. Retrieved May 24, 2011 from http://www.msi.govt.nz/about-us/investment-boards

National Institute of Water &Atmospheric Research (NIWA) (2008). *Wendy Nelson*. Retrieved June 1, 2011 from http://www.niwa.co.nz/our-science/aquatic-biodiversity-and-biosecurity/key-contacts/all/wendy-nelson

New Zealand Government (NZ Govt.) (2010). *Research, Science and Technology Act 2010*. Retrieved June 1, 2011 from http://www.legislation.govt.nz/act/public/2010/0131/latest/DLM3166921.html

Ngā Pae o te Māramatanga (2009). *Te Ahukaramū Charles Royal*. Retrieved June 2, 2011 from http://www.maramatanga.co.nz/person/te-ahukaram%C5%AB-charles-royal

NZBio (2008). *Advisory Council*. Retrieved May 24, 2011 from http://www.nzbio.org.nz/page/advisory-council.aspx

Oliver, P. (2001, 29 September). Cool head in a burning debate. *New Zealand Herald*. Retrieved May 25, 2011 from http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=219409

Partnering for Innovation (2009). *2009 seminar programme*. Retrieved May 24, 2011 from http://pfi.otago.ac.nz/student/seminar09ChCh.html

Rolleston, W. (2005). *Local government and genetically modified organisms (GMOs)*. Retrieved May 25, 2011 from http://www.nzcpr.com/guest8.htm

Royal, C. (2006). *Dr Charles Royal (Te Ahukaramū) B.Mus(Hons), M.Phil, PhD: A brief curriculum vitae*. Retrieved June 2, 2011 from http://www.charles-royal.com/assets/abriefcv.pdf

Royal, C. (n.d.). *Biography*. Retrieved June 2, 2011 from http://www.charles-royal.com/default.aspx?Page=117

SOUNZ (n.d.). *About SOUNZ*. Retrieved June 2, 2011 from http://sounz.org.nz/content/about#Board_staff

South Pacific Sera (SPS) (n.d.). *Welcome to South Pacific Sera*. Retrieved May 24, 2011 from http://www.southpacificsera.co.nz/index.htm

Statistics New Zealand (2011). *Research and Development in NZ 2010*. Retrieved June 2, 2010 from http://www.stats.govt.nz/browse_for_stats/businesses/research_and_development/research-development-in-new-zealand-2010.aspx

Sustainable Future Institute (SFI) (2008a). *The history of genetic modification in New Zealand*. Retrieved June 13, 2011 from http://sustainablefuture.info/Site/Project/Genetic_Modification/home.aspx

Sustainable Future Institute (SFI) (2008b). *The review of the forty-nine recommendations of the Royal Commission on Genetic Modification*. Retrieved June 13, 2011 from http://sustainablefuture.info/Site/Project/Genetic_Modification/home.aspx

Sustainable Future Institute (SFI) (2009). *Methodology Version 3*. Retrieved July 6, 2011 from http://www.sustainablefuture.info/Site/Publications/Project_Reports.aspx

Treasury (2011). *Core Crown expense tables*. Retrieved July 1, 2011 from http://www.treasury.govt.nz/budget/forecasts/befu2011/091.htm

University of Canterbury (n.d.). *Staff profiles: Professor Richard Blaikie*. Retrieved June 10, 2011 from http://www.canterbury.ac.nz/profiles/staff/people/richard_blaikie.shtml

University of Otago (2010a). *University of Otago 2010 annual report*. Retrieved June 10, 2011 from http://www.otago.ac.nz/about/otago018631.pdf

University of Otago (2010b). *Otago molecular biologist wins prestigious science and technology award*. Retrieved June 2, 2011 from http://www.otago.ac.nz/news/news/otago015069.html

University of Otago (n.d.). *Professor Warren Tate*. Retrieved June 2, 2011 from http://biochem.otago.ac.nz/professor-warren-tate

University of Oxford (2011). *Frascati Definition of Research.* Retrieved September 9, 2011 from http://www.admin.ox.ac.uk/researchsupport/applying/frascati/

MCGUINNESS INSTITUTE
TE HONONGA WAKA