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APEC Researcher Mobility Workshop

Bringing together research
opportunities and institutional
linkages across the Asia-Pacific

APEC Research Integrity Principles Project

Report to Member Economies

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This report was written by Dr Ren Yi and Mr Alan McCormack from the Higher Degree Research Office at Macquarie University. It was prepared for the Australian Government Department of Education and Training to contribute to the APEC Education Network meeting in Arequipa, Peru in May 2016. The views expressed in this document are not necessarily the views of the Australian Government Department of Education and Training. Finally, the author extends his thanks to Lyndal Corbett, Stephen Trengove-Jones, Symeon Collette and Barbara Klompenhouwer from the Department of Education and Training in Australia who commissioned the research and provided support throughout.



Executive Summary

Opportunities to enhance research innovation and remove impediments to the mobility of professional researchers across the APEC community were the subject of the APEC Researcher Mobility Workshop held in Jakarta in December 2015. The workshop made two project recommendations that are being addressed by Australia. One project was designed to overcome the lack of data on existing research interactions between member economies. A report on that project titled Mapping Researcher Mobility in APEC was circulated at the 2016 APEC Education Network meeting. The other project is the subject of this report. It examined the variability in research integrity management practices in APEC economies, as that variability adversely impacts the level of intra-APEC researcher mobility.

The issue of research integrity management was addressed in two parts. The first part established the extent of variability in current research integrity practices across member economies. The second part provides a recommended roadmap towards research integrity principles among APEC economies.

This report presents the findings of both aspects of the research integrity principles project. In relation to current research integrity management practices in member economies, it is not surprising that there are differences to be found. In essence the results reflect the varying economic and educational characteristics of APEC member economies. Yet, notwithstanding the general level of disparity in management practices, some areas of research specialty are more closely aligned. This is evident in the field of human health and medical research and this compatibility of cross-border management practices could present opportunities to incubate APEC researcher mobility initiatives in those research specialties.

The second task in this project is to recommend a roadmap towards research integrity principles among APEC economies. Progress was aided by member economies providing generous access to their current research integrity management documentation and especially by their referrals to bodies of work in other parts of the world. Foundational studies such as the 2010 Singapore Statement on Research Integrity, the 2012 Montreal Statement on Research Integrity in Cross-Border Research Collaborations and the Organisation for Economic Co-operation and Development (OECD) document “Best Practice for Ensuring Scientific Integrity and Preventing Misconduct” provide a solid base for the eventual creation of APEC Guiding Principles for Research Integrity.

As new issues continue to arise and highlight the need for ongoing engagement between APEC economies on issues relating to research integrity, this report recommends that economies adopt a ***Roadmap towards APEC Guiding Principles for Research Integrity***. The Roadmap is an important step in the process of building a vibrant community of mobile professional researchers across all APEC member economies and promoting the region’s commitment to quality research.

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1. Introduction

Research integrity management has become increasingly important to APEC member economies as the opportunities and rewards from cross-border research collaboration reach unprecedented levels. This report found that fulfilment of these opportunities would be facilitated by acceptance of research integrity principles to build trust and add value to APEC research communities. Due to increasing competition for research funding and research publications, the risks for research integrity management have increased dramatically. Cross-institutional research collaboration between industry, universities and research institutes domestically and internationally has made research integrity management more complex. Stakeholders such as government policy makers, funding agencies, universities and research institutes, industry and researchers should be included in the research integrity management system.

Research integrity management for international research collaboration is a very challenging issue. International research misconduct allegations have been investigated in many countries and institutions but there are no frameworks or guidelines in place to govern international research collaboration. Furthermore, there are currently no international bodies or agencies that are responsible for managing the issue. In 2009, the OECD published the first guide to address international research misconduct investigations among Organisation for Economic Cooperation and Development (OECD) countries. The publication is titled *Investigating Research Misconduct Allegations in International Collaborative Research Projects: A Practical Guide* (OECD 2009).

In 2010, more than 340 researchers, funders, publishers, representatives from universities and research institutions from 51 countries attended the 2nd World Conference on Research Integrity (WCRI). The Singapore Statement on Research Integrity developed during the Conference provided the foundation for more expansive and specific guidelines for cross-border research (www.singaporestatement.org, accessed 16th April 2016). That process was advanced during the 2013 3rd World Conference, which produced the Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations (<http://www.researchintegrity.org/Statements/Montreal%20Statement%20English.pdf>, accessed 16th April 2016).

In December 2015, the APEC Researcher Mobility Workshop brought together prominent academics, university leaders, governments, and research organisations from across the Asia-Pacific to discuss and identify ways of promoting and supporting the mobility of research students and researchers and of enhancing research innovation. The workshop identified the need for APEC economies to closely examine the issue of research integrity. This report attempts to gather policies, codes, procedures and processes on research integrity management among APEC economies. It is directly relevant to the 2012 APEC Economic Leaders' Declaration on Promoting Cross-Border Education Cooperation, which instructs Ministers and officials on priorities relating to research mobility.

The report sets out findings of the APEC Research Integrity Survey conducted during February-March 2016 and provides a **Roadmap towards APEC Guiding Principles for Research Integrity**. The Survey and Roadmap were commissioned by the Australian Government Department of Education and Training and have their origin in the following recommendation from the APEC Researcher Mobility Workshop:

“Develop guiding principles for research integrity”

The final recommendation of participants was to develop an APEC approach to research integrity. The Singapore Statement provides a good foundation but participants felt that further work is required to develop a set of guiding principles to demonstrate APEC's commitment to research quality. This approach would help the research communities in APEC economies learn from the experiences of their peers in other economies and share good practice. Once developed, the guiding principles would greatly reduce the complexities involved in researcher mobility” (Australian Government Department of Education and Training 2015, p.62).

The five question Research Integrity Survey asked member economies to provide details of their current research integrity management practices. Survey respondents have provided details of an array of existing policies, codes,

procedures and research processes. The data provided the foundation on which to construct the Roadmap for guiding principles for research integrity and enhanced researcher mobility.

Survey responses were received from 8 member economies – Canada, Chile, Indonesia, Japan, New Zealand, Peru, Singapore and Thailand. While there are notable variations in research policy details across these economies there is a consistent regard for the ideals of research integrity management. Copies of all Survey responses are set out in Appendix A.

We would like to thank all responding member economies.

2. Survey design, questionnaire and secondary data review

In order to understand current research integrity management practices among APEC economies, a survey methodology has been adopted for this report. The survey method provides more flexibility, audience targeting, willingness to participate and response accuracy. Furthermore, respondents provided sets of secondary data, including different national and institutional codes, statements, research integrity policies and guidelines that have also been reviewed.

The responses by member economies to the five question Research Integrity Survey provide the primary research data for this report. Member responses were wide ranging and with few exceptions provide substantial qualitative information on the governance of research integrity at the national and institutional levels, and in some cases at the level of individual academic disciplines. An example of the Survey questionnaire is set out in section 2.2 below.

The Survey form and brief accompanying email were dispatched to 21 nominated representatives of APEC member economies on January 5, 2016 with the request that completed surveys be returned to AustraliaAPEC@education.gov.au by 11 March 2016. Eight member economies completed the Survey and those responses provide the source data on which the following sections of this report are based.

2.1 Survey Limitations

While a 33% survey response rate is significant and includes a wide geographic and socio-economic spread of member economies there are two limitations to the conclusions that can be made based on the responses received:

The first is to note that the eight responses provide a limited aggregate sample base relative to the total gross domestic product, professional researcher population and combined research effort of the collective APEC membership.

The second is to acknowledge that there appears to be some linguistic and conceptual variation in the use of integrity management terms and these may need to be harmonised to ensure genuine member consensus.

As a result, findings and recommendations in this report will ideally need to be validated with a wider sample of the community before finalisation.

2.2 APEC Research Integrity Survey Questions

The APEC Researcher Mobility Workshop in Jakarta identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. The following is an example of the Survey question form that was distributed to member economies on 5 January, 2016. Complete copies of the Survey question responses received from Canada, Chile, Indonesia, Japan, New Zealand, Peru, Singapore and Thailand are set out at Appendix A. Australia will provide on-line access to the findings of this survey through APEC EDNET in 2016. The survey questionnaire is as follows:

Please send completed surveys to AustraliaAPEC@education.gov.au by 11 March 2016.

Economy:	
Contact name:	
Contact job title:	
Contact email:	
Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
Question 2:	Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.
Question 3:	Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.
Question 4:	Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.
Question 5:	Is there anything else we need to know about research integrity in your economy?

2.3 Secondary Data Review

A large set of secondary data on research integrity management was reviewed, even though not many countries have unified national policies, codes and guidelines. In addition, some relevant documents and regulations at institutional and funding agency level were available for study and a number of research integrity management websites were also reviewed. Below are some examples (assessed March-April 2016):

- Office of Research Integrity, Ministry of Sciences and Technology China (<http://www.sinori.cn/index>)
- Office of Research Integrity, National Institute of Health US (<https://ori.hhs.gov>)
- Office of Inspector General, National Sciences Foundation (<https://ori.hhs.gov>)
- Committee on Publication Ethics (COPE) (<http://publicationethics.org>)
- Global Research Council (<http://www.globalresearchcouncil.org>)
- Australian Research Council (ARC) (<http://www.arc.gov.au>)
- National Health and Medical Research Council (NHMRC) Australia (<https://www.nhmrc.gov.au>)
- Australasia Research Management Society (ARMS) (<https://researchmanagement.org.au>)
- Panel on Responsible Conduct for Research Canada (<http://www.rcr.ethics.gc.ca/eng/policy-politique/framework-cadre/>)
- European Research Foundation (ESF) (<http://www.esf.org/coordinating-research/mo-fora/research-integrity.html>)
- Organisation for Economic Cooperation and Development (OECD) (<https://www.oecd.org/sti/sci-tech/42770261.pdf>)

3. Survey Result Analysis

Data analysis is defined as a process of bringing order, structure and meaning to the mass of unstructured data (Uma 2003). Bernard (2000) argued that data analysis is the search for patterns in data for ideas that help explain why those patterns exist. To search for those patterns and ideas, it is also necessary to utilise some techniques for analysing data collected in the field. Discourse analysis, grounded theory, content analysis techniques and analytic comparison techniques have been adopted in the following analysis of collected data on research integrity management among APEC economies.

3.1 Survey question 1:

Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.

The table provides a summary of member economy responses to this question:

Table: 1

Do you have a national research integrity management code?		
Member economy	Yes	No
Canada	<input checked="" type="checkbox"/> *	
Chile		<input checked="" type="checkbox"/>
Indonesia		<input checked="" type="checkbox"/>
Japan	<input checked="" type="checkbox"/>	
New Zealand		<input checked="" type="checkbox"/>
Peru		<input checked="" type="checkbox"/>
Singapore	<input checked="" type="checkbox"/>	
Thailand		<input checked="" type="checkbox"/>

*Government agencies model on but are not bound by the National Framework

While the table records each member’s response to the central question there is further more nuanced information set out in the commentaries that accompany some of the responses. A copy of each member response to this and all other survey questions is presented in the Member Responses at Appendix A.

An examination of the detailed responses to Question 1 highlights two issues. The first is the repeated reference to research ethics by member economies that do not have a national integrity management policy. To varying degrees this illustrates a propensity to conflate the two separate issues of research integrity management and research ethics. The points of distinction between these two issues were highlighted in the APEC Researcher Mobility Workshop programme and are summarised in Section 7.2 of the Workshop Report (Australian Government Department of Education and Training 2015, pp. 50-51).

Section 7.2 of the Report identified the 2010 Singapore Statement and the 2013 Montreal Statement on Research Integrity as foundational efforts to establish guidelines and codes of conduct for greater integrity in international research. These papers are reinforced by the OECD Guide to Best Practice for Ensuring Scientific Integrity (OECD 2007) while the Australian Code for Responsible Conduct of Research (Appendix D) is cited as an appropriate model for national or institutional level integrity management. It is perhaps surprising that only three responses (Chile, Japan and Singapore) make reference to compliance with any of the above research governance standards.

The second notable feature of the responses is the recurrent reference to ethical compliance standards in the fields of human health and medical research and consequently in relation to animal research practices. Deeper analysis of the level of real commonality in the standards of ethics and research integrity across member economies is necessary to establish if there is genuine compatibility. If this is the case it suggests that researchers in these fields would provide the most appropriate communities in which to initiate the desired APEC researcher mobility process.

3.2 Survey question 2:

Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.

The following is a summary of the major government research integrity management bodies and their function:

Table: 2

Major government bodies and their research integrity management function	
Canada	The Panel on Responsible Conduct of Research (PRCR) was established by the Canadian Institute of Health (CIHR), the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC) - the Tri-Agencies. PRCR promotes the responsible conduct of research and addresses allegations of breaches of Tri-Agency Framework Policies.
Chile	The National Commission for Scientific and Technical Research (CONICYT) requires researchers to comply with the principles and norms of the Singapore Statement on Research Integrity.
Indonesia	The Chamber of Research Professors is an institution under the Indonesian Institute of Science (LIPI) that is coordinated by the Ministry of Research, Technology and Higher Education.
Japan	The Council for Science, Technology and Innovation (CSTI) is responsible for national strategic science and technology policies and deals with research integrity management policies. Under the CSTI's initiative research funding ministries set guidelines and rules for research integrity.
New Zealand	There is no national body with overall responsibility for research integrity management. The Minister of Science and Innovation and the Minister of Finance oversee seven Crown Research Institutes that conduct scientific research. The Ministry of Business, Innovation and Enterprise assisted by The Treasury monitor science quality and assurance. The Health Research Council committee approves health and disability ethics committees.
Peru	No one government body has research integrity management oversight. Decentralised public research institutions have their own Research Ethics Committee.
Singapore	The Agency for Science, Technology and Research (A*STAR) together with the National University of Singapore and Nanyang Technological University develop the research integrity framework.
Thailand	The National Research Council of Thailand (NRCT) is responsible for national research policy and develops guidelines for researchers.

Different economies have different governing bodies to look after this matter. Some economies have no national bodies looking after this. Some economies delegate the responsibilities to institutions.

3.3 Survey question 3:

Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.

Table: 3

Universities and research institutions with policies and codes on research integrity management with selected document links	
Canada	Universities and research institutions funded by the Tri-Agencies apply policies within the terms of the Tri-Agency Framework for Responsible Conduct of Research: http://www.rcr.ethics.gc.ca/eng/policy-politique/framework-cadre/ The National Research Council Policy: http://www.nrc-cnrc.gc.ca/eng/about/policies/research_integrity/
Chile	University research proposals require internal ethics committee approval. For instance Universidad de Chile: Medicine School: http://ceish.med.uchile.cl Social Science School: http://www.facso.uchile.cl/facultad/presentacion/107053/comite-de-etica-de-la-investigacion School of Philosophy, Centre of Applied Ethics Research: www.cedea.uchile.cl
Indonesia	Universities have their own research ethics related codes. Universitas Sriwijaya code submitted.
Japan	University and research institution policies and codes on research integrity are compatible with Ministry guidelines outlined in Qn.2. Policies and codes are accessible on individual institution web sites.
New Zealand	Universities New Zealand (UNZ) represents eight NZ universities and oversees quality assurance and academic processes. UNZ's Committee on Academic Programmes and the Academic Quality Agency for New Zealand oversee quality assurance of universities. http://www.universitiesnz.ac.nz/academic-quality The independent statutory Royal Society of New Zealand advances science, technology and humanities research. http://www.royalsociety.org.nz/organisation/about/code/
Peru	Every public research institution has a Research Ethics Committee: http://www.ins.gob.pe/insvirtual/images/otrpubs/pdf/Guia%20Comit%C3%A9s%20de%20etica.pdf For example, Universidad Peruana Cayetano Heredia: http://www.upch.edu.pe/vrinve/duict/index.php/regulacion/integridad
Singapore	National University of Singapore policy: http://www.nus.edu.sg/dpr/Governance/integrity.html Nanyang Technological University policy : http://research.ntu.edu.sg/guides/Documents/Research%20Integrity/Part%201_NTU%20Research%20Integrity%20Policy%20-%2014Nov2013%20Clean%20Ver%20tm060314.pdf
Thailand	Universities and research institutes set their own code of conduct aligned with the Ethical Guideline for Research Practices of The National Research Council of Thailand.

Once again there is no consistent approach to research management at the institutional level among responding economies. Different approaches have been adopted by different economies and by different bodies within an economy.

Box 1 Case Study: Singapore - Nanyang Technological University (NTU)

NTU Institutional Research Integrity Code*

The NTU Policy document on Research Integrity and the Responsible Conduct of Research includes two admirable provisions worthy of inclusion in a research integrity code.

First is the incorporation into the integrity code of an NTU institutional Whistle Blower Policy. This provision is reinforced by clear directions for reporting of potential research misconduct to a central Research Integrity Officer or to Research Integrity Points of Contact within each faculty.

The second is a requirement for all faculty, research staff and doctoral students to sign a declaration of commitment to abide by the NTU Research Integrity Policy. This practice ensures ex ante awareness and commitment to the institution's research governance standards.

*http://research.ntu.edu.sg/guides/Documents/Research%20Integrity/Part%201_NTU%20Research%20Integrity%20Policy%20-%2014Nov2013%20Clean%20Ver%20tm060314.pdf

accessed 18 April, 2016.

3.4 Survey question 4:

Are you aware of any national and/or institutional education programs on research integrity in your economies?
Please list the names of the programs.

Table: 4

A list of national and/or institutional education programs on research integrity	
Canada	The PRCR site has educational resources: http://www.rcr.ethics.gc.ca/eng/srcr-scr/lor-cdr/
Chile	<p>The Centre on Bioethics Research (Universidad de Chile) workshops and education programs: http://www.uchile.cl/portal/investigacion/centro-interdisciplinario-de-estudios-en-bioetica/cursos/78944/cursos</p> <p>The School of Philosophy of Universidad de Chile - Master on Bioethics: http://www.uchile.cl/postgrados/48137/bioetica</p> <p>Other universities education programs on research ethics:</p> <ul style="list-style-type: none"> • Pontificia Universidad Católica de Chile http://www.educacioncontinua.uc.cl/20023-ficha-diplomado-en-tica-de-la-investigacion-biomedica http://escuela.med.puc.cl/paginas/cursos/cuarto/eticaclinica/Programa.html • Universidad del Desarrollo http://medicina.udd.cl/centro-bioetica/cursos/ • Universidad Central http://www.ucentral.cl/diplomado-en-etica-de-la-investigacion-b-learning/postgrado/2015-09-11/102340.html
Indonesia	No programs conducted
Japan	<p>Japan Society for the Promotion of Science: Sound Development of Science -The Attitude of a Conscientious Scientist: https://www.jsps.go.jp/j-kousei/data/rinri_e.pdf</p> <p>Collaborative Institutional Training Initiative Japan: https://edu.citiprogram.jp/defaultjapan.asp?language=japanese</p>
New Zealand	<p>Waikato University – one off two-hour session on Research Integrity/Ethics as part of a Linguistics Seminar.</p> <p>Unaware of any national or institutional education programmes on research integrity in New Zealand.</p>
Peru	The Universidad Peruana Cayetano Heredia – supported by the Fogarty International Center. http://www.cri.andeanquipu.org/index.php/es/
Singapore	<p>The National University of Singapore Graduate School for Integrative Sciences and Engineering - compulsory course on research integrity: GS6001 (Research Ethics and Scientific Integrity)</p> <p>Nanyang Technological University Research Integrity Policy course: http://research.ntu.edu.sg/ResearchIntegrity/Pages/default.aspx</p>
Thailand	No answer

Different research integrity education programs have been designed and delivered in APEC economies and are mainly at the institutional level.

Box 2 Case Study: Japan - Education Program on Research Integrity

“Sound Development of Science - The Attitude of a Conscientious Scientist”

This notable 2014 publication by the Japan Society for the Promotion of Science is a 100 page book that “summarizes the standards that each scientist needs to understand and abide by to ensure the sound advancement of science”. This detailed practical text was recently updated and now includes a section titled “Science in Society” (Japan Society for the Promotion of Science 2014, pp. 2-4).

Focus on the societal role of scientists in Japan follows the widespread loss of trust in science after the 2011 Fukushima nuclear accident. The Science in Society section exhorts scientists to do more than just their everyday research and to accept responsibility for providing advice to policy makers based on their scientific knowledge. Furthermore, the section concludes, in the event that decisions are made contrary to scientific advice “it is the duty of scientists to request that the policy-makers provide an explanation to society” (Japan Society for the Promotion of Science 2014, pp. 4-5).

The book provides an extensive coverage of research education and management issues that are reinforced by case studies and practical examples.

3.5 Survey question 5:

Is there anything else we need to know about research integrity in your economy?

Table: 5

Other research integrity issues	
Member economy	
Canada	Government agencies are not bound by the Tri-Agency Framework, but many try to model it. The federal government's premier research organisation, the National Research Council, contributes to the World Conference on Research Integrity and the International Science Council Committee on Freedom and Responsibility in Research.
Chile	Some Professional Association Ethics codes include chapters related to research integrity. For example, the Psychologists' association has a well-developed ethics code: http://colegiopsicologos.cl/web_cpc/quienes-somos/codigo-de-etica-profesional/ . The Medics', Engineers' and Anthropologists' associations also have ethics codes.
Indonesia	Currently Indonesia only has institutional codes on research integrity.
Japan	No.
New Zealand	The Royal Society of New Zealand has released draft guidelines for the Government's <i>A Nation of Curious Minds He Whenua Hihiri I Te Mahara; A National Strategic Plan for Science in Society</i> : http://www.royalsociety.org.nz/events/consultation-meetings-researcher-guidelines-for-public-engagement/ For the Plan's draft research integrity guidelines, refer to: http://www.royalsociety.org.nz/media/2016/01/Consultation-draft-researcher-guidelines-for-public-engagement.pdf The APEC Guiding Principles for Research Integrity project should note work by the Global Research Council on development of a set of research integrity principles: http://www.globalresearchcouncil.org/documents#researchintegrity The Royal Society of New Zealand and the International Council for Science (ICSU) are involved in work that is relevant to the APEC Guiding Principles for Research Integrity project: http://www.icsu.org/freedom-responsibility/research-integrity
Peru	No answer
Singapore	Nil
Thailand	The Thailand Research Fund (TRF) is another national funding body that promotes research integrity alongside The National Research Council of Thailand.

Box 3 Case Study: New Zealand - Other research integrity issues

The Global Research Council report

The citation by New Zealand of the Global Research Council publications on research integrity* provides access to “Doing Global Science – A Guide to Responsible Conduct in the Global Research Enterprise” published recently by the Inter Academy Partnership (IAP 2016). This 175-page guide to responsible global research behaviour is a wide-ranging resource for use by individual scientists, educational institutions and in organisational training programs (IAP 2016, pp. viii-x).

One chapter of the Guide examines the subject of international research collaboration and highlights the need for host and guest researchers to agree in advance on applicable research codes and procedures (IAP 2016, pp. 93-100). It also recommends the formalisation of international collaboration agreements by adapting as necessary a template text produced by the OECD Science Forum (OECD 2007).

Greater harmonisation of integrity training programs including online collaboration by institutions (Steneck 2013) and formalisation of provisions for officials with cross-boundary responsibility for enforcing research integrity are other recommendations in the Guide (IAP 2016, pp. 98-99). Managing researchers’ use of blogs, videos, tweets and other social media for professional communication with the broader public is noted as a new challenge to managing the responsible conduct of research (IAP 2016, p. 110).

*<http://www.globalresearchcouncil.org/documents#researchintegrity>

4. A case study of research integrity management in Australia

Research integrity management has become increasingly important in Australia. The main purpose of research integrity management is to reduce risk while adding value for the research community (Ren 2012, p. 55). Due to the pressure of 'publish or perish' and competition for research funding nationally and internationally, the risk of research misconduct has increased dramatically in Australia. In this section, research integrity management in Australia will be summarised at both the policy and practice levels.

4.1 National code on research integrity management

Australia is one of a few countries that have a unified national approach to research integrity management. The Australian Federal Government, through its research funding agencies – National Health and Medical Research Council (NHMRC), the Australian Research Council (ARC) and Universities Australia (UA) – released the Australian Code for the Responsible Conduct of Research (The Code) in 2007 (Appendix D)

(<http://www.nhmrc.gov.au/files/nhmrc/publications/attachments/r39.pdf> accessed on 20 April 2016)

The purpose of the Code is to guide universities, research institutions and researchers in responsible research practices. In describing good practice, the Code promotes integrity in research and explains what is expected of researchers by the community. The Code also assists researchers, administrators and the community with advice on how to manage departures from best practice in research (NHMRC et al 2007, p. 1).

There are two major sections of the Code. Part A primarily describes the principles and practices for encouraging responsible conduct of research for universities, research institutions and researchers – in other words, good behaviours and good practice. Part B provides a framework for resolving allegations of breaches of the Code and research misconduct.

In addition, the Australian Government has announced the establishment of the Australian Research Integrity Committee (ARIC) (<https://www.nhmrc.gov.au/research/responsible-conduct-research/australian-research-integrity-committee> accessed 10 April 2016). ARIC is an independent body which ensures universities and research institutions take appropriate action in response to allegations of research misconduct (DIISR, 2010). ARIC, as the national advisory body, is jointly managed by the ARC and the NHMRC. As the Australian research community is self-regulated, ARIC supplements rather than replaces existing institutional processes used by universities and research institutions.

4.2 Institutional approach to research integrity management

Australian universities and research institutions are taking great responsibility for research integrity management. The majority of research institutions are publicly funded and therefore have a responsibility to ensure that public funding is used in a responsible and transparent manner. For example, Macquarie University is a public university, and believes in providing a self-regulated research integrity management environment. As a result, institutional leadership is critical in advancing and ensuring research integrity management at Macquarie University.

In order to meet the requirements of the Australian Code, Macquarie University developed the Macquarie University Code for Responsible Conduct of Research (The Macquarie Code) (Appendix E). The Macquarie Code outlines standards of responsible and ethical conduct expected of all persons engaged in research under the auspices of Macquarie University (Macquarie University 2015, p1).

In reflecting the Australian Code, The Macquarie Code also contains two parts. The first part is Principles and Practices to Encourage Responsible Research Conduct. The second part is for Resolving Allegations of Breaches or Research Misconduct. The Macquarie Code requires that all Macquarie University staff and students have an obligation to report any possible breaches of The Macquarie Code or the [Australian Code for the Responsible Conduct of Research \(2007\)](#), or possible research misconduct to the Director, Research Ethics and Integrity (Macquarie University 2015, p. 4). The Macquarie Code provides details on the process for a misconduct appeal, along with the requirements of contact officers, approval officers and research integrity advisors. The advisory and investigation processes have been separated in order to avoid conflicts of interests.

4.3 Education programs

Macquarie University developed a series of training programs for research staff and students to promote the responsible conduct of research. The following programs are currently available at Macquarie University:

1. Training and information sessions

Training and information sessions are held by Research Ethics and Integrity and the Faculties.

2. Online training for HDR candidates and supervisors

The Epigeum Research Master Skills Course is available to HDR candidates and supervisors. It includes a module on the subject of Research Integrity.

3. The U.S. Office of Research Integrity online resources

The Office of Research Integrity offers interactive online training in research integrity for laboratory and research clinic based researchers. It provides a collection of case studies relating to research integrity and summaries of actual research integrity cases:

- The Lab: <http://ori.hhs.gov/thelab>
- The Research Clinic: <http://ori.hhs.gov/TheResearchClinic>
- Case Studies: <http://ori.hhs.gov/rcr-casebook-stories-about-researchers-worth-discussing-Research>
- Misconduct Case Summaries: http://ori.hhs.gov/case_summary

4. Other useful online resources:

- Retraction Watch: <http://retractionwatch.com/>
- Macquarie University's MQ YouTube channel provides Doctoral students with brief practical advice on the following issues:
 - Research Integrity- Contract Cheating: <https://youtu.be/a2zvOYk4ZHA>
 - Research Integrity- Editing Assistance: <https://youtu.be/Y30DBk8zEXs>
 - Research Integrity- Predatory Publishers: <https://youtu.be/31rfisG7z7A>

5. Recommended Roadmap towards Research Integrity Principles

The main purpose of this report is to better understand the current standard of research integrity management among APEC economies. It is founded on the belief that research innovation and international collaboration are integral to the APEC mission of encouraging cross-border education cooperation, which constitutes an important part of the overall agenda for APEC cooperation. As with other projects¹ that have been funded by APEC member economies, this project provides an opportunity to leverage the added value that can be derived from cross-border research among APEC member economies.

It is very important to recognise the differences between research integrity and research ethics (human ethics, animal ethics and biosafety, etc.) because no clear and common agreed definitions for research integrity and research ethics have yet been agreed. Any agreed research integrity principles among APEC member economies should cover the following issues:

- Research data and primary material management
- Supervision of future researchers
- Dissemination and publishing research findings
- Peer review management
- Authorship
- Conflict of interest management
- Collaborative research between institutions and industries

It is also important that APEC economies set up a process for resolution of research misconduct. APEC can take the lead to minimise the risks to research integrity and impacts on funding of research and innovation projects.

APEC economies can create and sustain a positive and responsible research culture that encourages integrity through education programs and clear policies. Researchers within APEC economies can take responsibility for clearly distinguishing professional comments from opinions based on personal views. They should also report irresponsible research practices such as fabrication, falsification or plagiarism, and ensure their research has regard for the maintenance of accepted social standards.

5.1 Research integrity policy and framework

At the international level, there is no policy framework to address research integrity issues among APEC economies due largely to the absence of a common understanding of what research integrity is and how it is distinguished from research ethics. This shortcoming could expose APEC economies collectively or individually to potential research misconduct on projects that have been funded by APEC.

At the national level, APEC economies are at very different stages of development in research integrity management. These differences should be addressed in order to achieve international collaboration on research and innovation and economic integration.

At the institutional level, there are institutions in some economies that have adopted different approaches to managing research integrity issues, compared with similar institutions in other economies. Even within the same economy there may be different approaches to this issue in different institutions.

¹https://aimp2.apec.org/sites/PDB/default.aspx?Paged=TRUE&p_Modified=20160328%2008%3a15%3a09&p_ID=2860&View=%7b83E3B044%2d8AB8%2d4C17%2dBD9C%2d339B44D27167%7d&PageFirstRow=11 accessed 18th April 2016.

5.2 Responsibilities for research integrity management

Who should take responsibility for research integrity management? At the national level most economies seem to adopt the premise of “whoever funds the research and innovation project should take the responsibility”. National funding agencies appear to be the major organisations managing research integrity issues on behalf of their governments, though in some economies the responsibility is delegated to individual research institutions. In such cases, it is up to the institution to set up the policy framework and strategy to manage research integrity issues.

5.3 Education program on research integrity management

As indicated in the Survey responses, most education programs on research integrity are embedded at the institutional level (Chile, Indonesia, New Zealand, Peru and Singapore), although some economies such as Canada and Japan do have national research integrity education programs.

Meanwhile, there are many commercial research integrity education programs. Epigeum is one example of a commercial company delivering research integrity training in different countries (<https://epigeum.com/courses/research/research-integrity/>). Some professional research management organisations such as the following also provide training and accreditation courses on research integrity management:

- Association of Research Managers and Administrators (ARMS) <https://www.arma.ac.uk>
- Australasia Research Management Society (ARMS) <https://researchmanagement.org.au>
- National Council for University Research Administrators (NCURA) <http://www.ncura.edu/Home.aspx>
- Society of Research Administrators International (SRA International) <http://srainternational.org>

Some funding agencies such as the US National Sciences Foundation (NSF) and the US National Institute of Health (NIH) also have some outstanding training programs. For example, The Lab is a research integrity training program developed by the Office of Research Integrity (ORI), NIH (<https://ori.hhs.gov/thelab>). It is one of the best research integrity training programs and is widely used by universities and research institutes. The Office of Research Integrity (ORI) also organised a research integrity training boot camp in San Diego US early in 2016.

5.4 Recommended roadmap

Based on an analysis of the Research Integrity Survey results, the following roadmap towards research integrity principles among APEC economies has been drafted and is recommended for consideration by APEC member economies:

Stage One:

- APEC adopts clear definitions that formally differentiate research integrity and research ethics issues.
- APEC fosters a positive research culture among all economies and promotes a common understanding of research integrity management issues before cross-border collaborative research ventures commence.
- Individual APEC member economies foster a positive research integrity environment within their economies.

Stage Two:

- APEC agrees on principles, clear processes and common procedures for cross-border research misconduct investigation among APEC member economies.
- APEC member economies apportion responsibility and require accountability for research integrity issues at national, institutional and individual levels.

Stage Three:

- APEC shares education programs on research integrity among member economies.
- APEC member economies conduct education programs on research integrity.

Stage Four:

- APEC formalises the framework for international collaboration agreements. A template agreement text produced by the OECD Science Forum (OECD 2007) provides a framework for this process.

Appendix A: Member economy survey responses:

1. Canada



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The workshop identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. Australia will share the findings of this survey through APEC EDNET in 2016.

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Economy:	Canada
Contact name:	Dick Bourgeois-Doyle http://www.nrc-nrc.gc.ca/eng/about/corporate overview/council members/bourgeois doyle.html
Contact job title:	Secretary General, National Research Council of Canada
Contact email:	Dick.bourgeois-doyle@nrc-cnrc.gc.ca

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	Yes. The document is entitled THE TRI-AGENCY FRAMEWORK: RESPONSIBLE CONDUCT OF RESEARCH Attached and here: http://www.rcr.ethics.gc.ca/eng/policy-politique/framework-

	<p>cadre/</p> <p>It applies to the university, hospital and other institutional research funded by the national research funding agencies - specifically, it applies to the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC), and the Social Sciences and Humanities Research Council (SSHRC) (the Agencies) and Institutions that receive Agency funding. Individual institutions have codes within this Framework and Government agencies, such as the National Research Council of Canada have policies that echo the same principles.</p>
<p>Question 2:</p>	<p>Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.</p> <p>In 2011, Canada's three federal research agencies, CIHR, NSERC and SSHRC, jointly created the Panel on Responsible Conduct of Research (PRCR) as part of a collaborative objective to ensure a coherent and uniform approach for promoting responsible conduct of research and for addressing allegations of breaches of Tri-Agency Policies, consistent with the Tri-Agency Framework: Responsible Conduct of Research (the Framework).</p> <p>The PRCR reviews institutional investigation reports; recommends recourse in cases of confirmed breaches, if appropriate, consistent with the Framework; provides advice to the Agencies on matters related to the responsible conduct of research; and provides advice to the Agencies on future revisions to the Framework. The PRCR, supported by the Secretariat on Responsible Conduct of Research (SRCR), http://www.rcr.ethics.gc.ca/eng/index/</p>
<p>Question 3:</p>	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>Universities and research institutions funded by the agencies cited above are required to have policies within the terms of the framework.</p> <p>The National Research Council Policy is also attached.</p>
<p>Question 4:</p>	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>The Panel on Responsible Conduct of Research cited above has educational resources on its website here. http://www.rcr.ethics.gc.ca/eng/srcr-scrs/tor-cdr/</p>
<p>Question 5:</p>	<p>Is there anything else we need to know about research integrity in your economy?</p> <p>With respect to the answers above, Government agencies are not bound by the Tri-Agency Framework, but many like the NRC try to model it and best practices.</p> <p>NRC, the federal government's premier research and technology organisation, also contributes through fora like the World Conferences on Research Integrity and the International Science Council (ICSU) infrastructure including its Committee on Freedom and Responsibility in Research.</p>

2. Chile



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Economy:	Chile
Contact name:	Marcos Costela
Contact job title:	Labour Advisor, DIRECON, Ministry of Foreign Affairs
Contact email:	mailto:mcostela@direcon.gob.cl

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	Though there are no national codes or policies on research integrity management, there has been considerable work on the development of research ethics over the past few decade in order to promote the integrity of research in biomedical science, social sciences and other disciplines, resulting in regulations, norms and a general acceptance in the national academic community of the principles of autonomy, non-maleficence, beneficence and justice.

	<p>However, the concept of research integrity has been far less developed and is less established than research ethics, and there is no unique national research ethics code, but a number of specific codes for different disciplines or research themes.</p> <p>The most developed and established codes are the ones related to bioethics and research with humans.</p> <p>Laws and norms related to research ethics are:</p> <ul style="list-style-type: none"> • Law N° 20.120, On scientific human research, human genome research, and the prohibition of human being cloning: http://www.leychile.cl/Navegar?idNorma=253478 • Law N° 19.628, On protection of private life – protection on private data: http://www.leychile.cl/Navegar?idNorma=141599 • Law N° 20.584, On Rights and duties of people on actions regarding their health care: http://www.leychile.cl/Navegar?idNorma=1039348 • Law N° 20.380, On animals protection: http://www.leychile.cl/Navegar?idNorma=1006858 • Order N° 130 24-JAN-2015, Creates an Advisory Commission on Research Ethics on Health for the Ministry of Health: http://www.leychile.cl/Consulta/m/norma_plana?org=&idNorma=1074205 • Ministry of Health - Norm on Accreditation of Scientific Ethics Committees: http://web.minsal.cl/portal/url/item/e52b95d04dafbcece04001016401571d.pdf
<p>Question 2:</p>	<p>Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.</p> <p>The major government bodies on research ethics management, not research integrity, are the national research funding agencies. These agencies include an ethics evaluation in the assessment of the proposals regarding research on human and living beings.</p> <p>The National Commission for Scientific and Technological Research (CONICYT) embraces the Singapore Statement on Research Integrity and requires researchers that are awarded grants to comply with the principles and norms of this Statement while developing their projects.</p> <p>CONICYT, mostly through its programs FONDECYT (basic research) and FONIS (health research), not only includes an ethics evaluation of the research proposals (FONDECYT has a Bioethics Committee for this purpose), but also makes available compendiums of norms and regulations, provides a framework and has yearly workshops about research ethics.</p> <ul style="list-style-type: none"> • FONDECYT’s Bioethics Committee: http://www.conicyt.cl/fondecyt/sobre-fondecyt/comite-bioetica/ • FONDECYT’s compendium of norms and regulations, framework and workshops: http://www.conicyt.cl/fondecyt/2012/10/31/bioetica/ • FONIS’s compendium of norms and regulations: http://www.conicyt.cl/fonis/sobre-fonis/aspectos-eticos
<p>Question 3:</p>	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>At universities, the research projects proposals require the approval of ethics committees, which are formed by each university, and are permanent or ad hoc.</p> <p>For example, Universidad de Chile has ethics committees in a number of schools, for instance:</p> <ul style="list-style-type: none"> • Medicine School: http://ceish.med.uchile.cl • Social Sciences School:

	<p>http://www.facso.uchile.cl/facultad/presentacion/107053/comite-de-etica-de-la-investigacion</p> <p>Also, the Centre of Applied Ethics Research (CEDEA, www.cedea.uchile.cl) of the School of Philosophy of this university, provides ethics evaluation of research proposals for several schools and does research on ethics. The Interdisciplinary Centre on Bioethics Research (http://www.uchile.cl/bioetica), which develops similar activities, also has an academic journal (www.actabioethica.cl/), and workshops and education programs on ethics (http://www.uchile.cl/portal/investigacion/centro-interdisciplinario-de-estudios-en-bioetica/cursos/78944/cursos).</p> <p>For information on other universities:</p> <ul style="list-style-type: none"> • Pontificia Universidad Católica de Chile: http://investigacion.uc.cl/Etica-UC/instructivos-e-informacion-relevante.html • Universidad de Santiago de Chile: http://www.vridei.usach.cl/comit%C3%A9-%C3%A9tica-institucional • Universidad Metropolitana de Ciencias de la Educación: http://www.umce.cl/index.php/direccion-investigacion-comite-de-etica • Universidad de Tarapacá: http://www.uta.cl/la-uta-trabaja-en-el-fortalecimiento-de-su-comite-etico-cientifico/web/2014-07-24/114250.html • Universidad del Desarrollo – Bioethics Centre: http://medicina.udd.cl/centro-bioetica/ • Universidad Alberto Hurtado: http://www.uahurtado.cl/investigacion/investigacion-uah/estandares-eticos-en-investigacion/
<p>Question 4:</p>	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>The Centre on Bioethics Research (Universidad de Chile) has several workshops and education programs: http://www.uchile.cl/portal/investigacion/centro-interdisciplinario-de-estudios-en-bioetica/cursos/78944/cursos</p> <p>The School of Philosophy of Universidad de Chile has a Master on Bioethics: http://www.uchile.cl/postgrados/48137/bioetica</p> <p>Other universities also have education programs on research ethics:</p> <ul style="list-style-type: none"> • Pontificia Universidad Católica de Chile: http://www.educacioncontinua.uc.cl/20023-ficha-diplomado-en-tica-de-la-investigacion-biomedica http://escuela.med.puc.cl/paginas/cursos/cuarto/eticaclinica/Programa.html • Universidad del Desarrollo: http://medicina.udd.cl/centro-bioetica/cursos/ • Universidad Central: http://www.ucentral.cl/diplomado-en-etica-de-la-investigacion-b-learning/postgrado/2015-09-11/102340.html
<p>Question 5:</p>	<p>Is there anything else we need to know about research integrity in your economy?</p> <p>Some professional associations have Professional Ethics code that include chapters related to research integrity. For example, the Psychologists’ association has a well-developed ethics code: http://colegiopsicologos.cl/web_cpc/quienes-somos/codigo-de-etica-profesional/. Also the Medics’, Engineers’ and Anthropologists’ associations have ethics codes.</p>

3. Indonesia



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The workshop identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. Australia will share the findings of this survey through APEC EDNET in 2016.

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Economy:	Indonesia
Contact name:	Prof. Dr. Ainun Na'im
Contact job title:	Secretary General of Ministry of Research, Technology and Higher Education
Contact email:	ainun.naim@gmail.com

Question 1:	<p>Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.</p> <p>Indonesia has a national code on research integrity and several universities also have codes or related policies on research integrity. The document is KODE ETIK PENELITI (attached) which is a guideline for government researcher to conduct their research activity based on integrity, honesty and fairness. Universities also have code on research integrity for their lecturer to conduct research (document is attached). For engineering, the Agency of Assessment and Application of Technology (BPPT) has a chapter on the engineers conducting their research (document is attached).</p>
Question 2:	<p>Who are the major government bodies on research integrity management in your</p>

	<p>economy? Please state the function of these bodies in regards to research integrity management.</p> <p>At the moment is the Chamber of Research Professor which is a institution under the Indonesian Institute of Science (LIPI). However, since the Indonesian Institute of Science (LIPI) is under the coordination of the Ministry of Research, Technology and Higher Education then it is ideally within the Ministry.</p>
<p>Question 3:</p>	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>Universities also have their own research ethic related code for example Universitas Sriwijaya (document attached)</p>
<p>Question 4:</p>	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>None</p>
<p>Question 5:</p>	<p>Is there anything else we need to know about research integrity in your economy?</p> <p>At the moment Indonesia only have institutional codes on research integrity. This should be integrated into a national code under the ministry and implemented through programs that covers education, evaluation system and other intruments for preventing misconduct on research activities.</p>

4. Japan



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Economy:	Japan
Contact name:	Mihoko Toyoshima
Contact job title:	Specialist, International Affairs Division, Ministry of Education, Culture, Sports, Science and Technology (MEXT)
Contact email:	toyoshima@mext.go.jp

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	Yes. In Japan, the Council for Science, Technology and Innovation (CSTI), which is chaired by Prime Minister, and responsible for making national holistic strategic science and technology policies, deals with research integrity management policies. Below is an official policy paper on this issue by CSTI:

	<p>http://www8.cao.go.jp/cstp/fusei/addressing_research_misconduct.pdf#search='CSTI+research+integrity'</p> <p>Under its initiative, each ministry sets guidelines and rules on research integrity management.</p> <p>For example, the Ministry of Education, Culture, Sports, Science and Technology (MEXT), adopted the “Guidelines for Responding to Misconduct in Research” for research institutions and researchers who receive our research fundings on 26th August 2014. Please check the link below: http://www.mext.go.jp/a_menu/jinzai/fusei/_icsFiles/afiedfile/2015/07/13/1359618_01.pdf http://www.mext.go.jp/a_menu/jinzai/fusei/_icsFiles/afiedfile/2015/07/13/1359618_02.pdf</p> <p>Other ministries also set rules for research institutions and researchers who receive their fundings (Unfortunately, English version of these rules is currently unavailable.)</p>
Question 2:	<p>Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.</p> <p>Ministries, which offer research funding, have the responsibility for research integrity of research institutions and researchers who are funded by them. These ministries, for instance, make rules for research integrity, as we mentioned in the answer to the question 1. And CSTI oversees and coordinates these activities.</p>
Question 3:	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>Yes. There are many policies and codes on research integrity, compatible with the ministries’ guidelines mentioned above, made by universities and research institutions in Japan. You can see those policies and codes on their web sites.</p>
Question 4:	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>Yes. We know two main programs. Please check the links below.</p> <p>-For the Sound Development of Science -The Attitude of a Conscientious Scientist- (offered by JSPS (Japan Society for the Promotion of Science)) https://www.jsps.go.jp/j-kousei/data/rinri_e.pdf</p> <p>-CITI-Japan program (offered by Collaborative Institutional Training Initiative Japan) https://edu.citiprogram.jp/defaultjapan.asp?language=japanese</p>
Question 5:	<p>Is there anything else we need to know about research integrity in your economy?</p> <p>No.</p>

5. New Zealand



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Economy:	New Zealand
Contact name:	Deborah McDonald
Contact job title:	Manager, International Engagement, Ministry of Education
Contact email:	Deborah.McDonald@education.govt.nz

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	There is no New Zealand national code or policy on research integrity.
	The Education Act (1989) contains some general provisions relating to academic freedom and

associated responsibilities of tertiary institutions. The Act (section 161) specifies:

In exercising their academic freedom and autonomy, institutions shall act in a manner that is consistent with—

- (a) the need for the maintenance by institutions of the highest ethical standards and the need to permit public scrutiny to ensure the maintenance of those standards; and
- (b) the need for accountability by institutions and the proper use by institutions of resources allocated to them.

New Zealand has well-established and good practice mechanisms in place governing **ethics issues** in respect of working with animal subjects and human subjects through the Ministry of Primary Industries (for animals), the Health Research Council and Universities. There is also an independent “NZ Ethics Committee” which will review any proposal for research involving human subjects and provide an opinion on whether the proposed research practice meets a good (ethical) standard. Some Crown Research Institutes (CRIs) will have their own ethics committees for such matters.

In terms of **research integrity**, New Zealand has two forms of mechanism. There are those within employers (Universities, CRIs etc.) which may set expectations on staff and students for research integrity and deal with misconduct. In the latter, they largely treat research misconduct as an employment matter and are focussed on “internal” matters. Individual institutions may involve lay members at their own discretion. There is no requirement on those employers for lay members of investigating panels or for lay members to issue minority reports if they consider the outcome is wrong. (Such mechanisms have been in place in the major professions for 10-20 years).

Ethical considerations for research are particularly notable in institutions who are engaged in health/medical research. All tertiary education organisations which offer degree programmes are required to have frameworks in place for encouraging and publishing research (see section below covering universities and polytechnics).

There is also the Royal Society of New Zealand (RSNZ) Code of Professional Standards and Ethics:

<http://www.royalsociety.org.nz/organisation/about/code/>

This Code has not been endorsed by research institutions, or have national applicability in the way the Australian National Code for the responsible Conduct of Research has. However, the RSNZ Act requires this code to apply to the Society’s members – it is therefore one of the few national academies in the world that enforces a code of conduct against its own Fellows. The code covers matters of research integrity but is wider. It applies to the Society’s 400 Fellows and 600 members, and to its organisational members (as organisations, but not to their own individual members). The RSNZ code deals with both “external” and “internal” ethical matters².

Marsden Fund contracts (<http://www.royalsociety.org.nz/programmes/funds/marsden/>), a major source of basic research funding, are administered by the RSNZ, and must be undertaken in a manner consistent with the RSNZ code - but any breach would be dealt with as a breach of contract with the research organisation. Other New Zealand research funders (the Health Research Council (HRC) and the Ministry of Business, Innovation and Employment (MBIE) do not specify compliance with the RSNZ code as a contractual requirement.

There is some support amongst rank and file researchers for research organisations to adopt the RSNZ code as a policy document.

² “External” ethical issues relate to the wider social/ethical context, and to the consequences of scientific research. “Internal” ethical issues relate to researchers’ behaviour and conduct occurring in his or her employment context.

Question 2: Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.

There is no New Zealand national body or government agency with overall responsibility for research integrity management.

The key agencies and organisations involved in research in New Zealand are listed below, with links to information concerning their policies governing issues related to ethics or research integrity:

Crown Research Institutes

Crown Research Institutes (CRIs) are corporatised Crown entities charged with conducting scientific research. There are seven CRIs in New Zealand: AgResearch, Institute of Environmental Science research, Institute of Geological and Nuclear Science, Landcare research, National Institute of Water and Atmospheric research, Plant and Food research, and Scion.

The seven CRIs are overseen by two shareholding ministers: the Minister of Science and Innovation and the Minister of Finance. **The Ministry of Business, Innovation and Enterprise**, assisted by **the Treasury**, therefore has a key role monitoring the performance of the CRIs, including around issues of science quality and assurance.

A CRI toolkit outlines the accountability and performance framework in which CRIs operate. The Toolkit is intended to provide information, examples and frameworks to assist CRIs in improving their performance, providing assurance and meeting accountability arrangements, including in areas relating to science quality and assurance:

<http://www.mbie.govt.nz/info-services/science-innovation/research-organisations/crown-research-institutes/cri-toolkit>

The Crown Research Institutes Act 1992 (CRI Act 1992) includes provisions relating directly or indirectly to research integrity, including that CRIs must:

- carry out research for the benefit of New Zealand
- pursue excellence in all their activities
- comply with all applicable ethical standards
- promote the application of the results of research and technological developments
- be a good employer
- exhibit a sense of social responsibility

Refer:

http://www.legislation.govt.nz/act/public/1992/0047/latest/whole.html?search=sw_096be8ed8009ce77_viability&p=1#d1m265144

Royal Society of New Zealand (RSNZ)

The RSNZ is an independent statutory organisation that promotes and advances science, technology and the humanities in New Zealand. At the organisation's core is its Academy of elected Fellows, New Zealand's top scholars and scientists.

Refer: <http://www.royalsociety.org.nz/organisation/about/code/>

The Health Research Council (HRC)

The HRC is the agency responsible for managing the Government's investment in health research. It also supports the development of research careers, so that New Zealand can have a well-trained workforce in the future. The HRC contributes to maintaining an ethical and safe health research environment. The HRC's committees provide advice on gene technology, approve health and disability

ethics committees and institutional ethics committees, monitor the data and safety of large clinical trials and review applications to use new medicines in trials.

The HRC was established under the Health Research Council Act 1990 which includes provisions on ethics. While the HRC does not have a code, it sets out its expectations with regard to research integrity and conduct in both its guidelines and in its contracts with researchers:

HRC Guidelines:

False or Misleading Information

Once submitted to the HRC, a funding application is considered final and no changes will be permitted, although it may be withdrawn. The application is the primary source of information available for assessment. As such it must contain all the information necessary for assessment of the application without the need for further written explanation, or reference to additional documentation, including the World Wide Web. All details in the application, particularly concerning any awarded grants, must be current and accurate at the time of application.

If an application contains information that is false or misleading, it may be excluded from any further consideration for funding.

If the HRC believes that omission or inclusion of misleading information is intentional, it may refer to the host institution for the situation to be addressed under the provisions of the organisational code of conduct. The HRC also reserves the right to not consider future applications from the relevant investigators and/or to pursue legal action if deemed appropriate. Examples of false or misleading information in an application include, but are not restricted to:

- Violation of the standard codes of scholarly conduct and ethical behaviour.
- Providing fictitious CVs or biographical sketches, including roles in previous research.
- Omitting advice of publications which have been retracted or are to be considered for retraction.
- Falsifying claims in publications records (such as describing a paper as accepted for publication when it has only been submitted).

HRC Contract

HRC contracts with researchers include provisions stipulating that where any information provided by the research contractor is found to be misleading or inaccurate, the research contract may be terminated.

Guidelines for researchers on health research involving Māori

These were produced by the Maori Health Committee to assist researchers who intend undertaking biomedical, public health or clinical research involving Māori participants or research on issues relevant to Māori health. This includes projects focusing on Māori as a cohort and as part of the wider population being studied.

The HRC has also established guidelines covering ethical matters around health research involving Pacific peoples, and guidelines setting out what requires ethical approval, and details of the approval process.

Apart from the HRC guidelines, the National Ethics Advisory Committee (NEAC) has established the following ethical guidelines for health and disability research in New Zealand:

HRC Guidance Notes on Research Ethics

These were developed to provide guidance to researchers on what requires ethical approval, and the ethical approval process.

Moreover, apart from the HRC guidelines, the National Ethics Advisory Committee (NEAC) have established the following ethical guidelines for health and disability research in New Zealand:

Ethical Guidelines for Intervention Studies
Ethical Guidelines for Observational Studies

These guidelines are currently under review.

Refer: <http://www.hrc.govt.nz/ethics-and-regulatory>

Universities:

New Zealand's eight universities play a prominent part in the country's research environment, a role in keeping with their statutory obligations. Under the Education Act (section 162) the research and teaching functions of universities are required to be closely interdependent and they **are expected to meet international standards of research**. The universities account for one-third of all research and development produced in this country and are the home to many of the country's researchers.

Universities New Zealand (UNZ) is the representative body for the eight New Zealand universities. UNZ has a key role in overseeing quality assurance in the university sector ensures that academic processes are of an internationally respected standard. The quality assurance processes use evidence to check that goals are being achieved and that policies and practices are under ongoing review as part of an overall quality enhancement regime. There are two bodies overseeing the quality assurance of universities - Universities NZ's Committee on University Academic Programmes (CUAP) and the Academic Quality Agency for New Zealand Universities (AQA) established in 1993 by Universities NZ as an independent body.

Refer: <http://www.universitiesnz.ac.nz/academic-quality>

The eight New Zealand Universities' individual research guidelines tend to focus on issues of human and animal ethics. Most universities additionally set out rules and guidelines for academic integrity which often also cover research practices.

Auckland University of Technology: <http://www.aut.ac.nz/researchethics>

Lincoln University: <http://www.lincoln.ac.nz/Lincoln-Home/Research/Committees/Human-Ethics/>
<http://www.lincoln.ac.nz/Lincoln-Home/Research/Committees/Animal-Ethics-Committee/>

Massey University: <http://www.massey.ac.nz/massey/research/research-ethics/>

University of Auckland: <https://www.auckland.ac.nz/en/about/research/re-ethics.html>

University of Canterbury: <http://www.canterbury.ac.nz/humanethics/>

University of Otago:

<http://www.otago.ac.nz/council/committees/committees/HumanEthicsCommittees.html>
<http://www.otago.ac.nz/council/committees/committees/otago000865.html>

University of Waikato: <http://www.waikato.ac.nz/research-enterprise/ethics>
<http://calendar.waikato.ac.nz/assessment/studentresearch.html>

Victoria University of Wellington: <http://www.victoria.ac.nz/fgr/current-phd/ethics>
<http://www.victoria.ac.nz/students/study/exams/integrity-plagiarism>

	<p>Polytechnics:</p> <p>New Zealand's 18 institutes of technology and polytechnics also have policies and procedures concerning research. (We can provide further detail if needed.)</p>
Question 3:	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>This information is encapsulated in the answers to question 2 above.</p>
Question 4:	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>Waikato University offered a one off two hour session on Research Integrity/Ethics in 2015 as part of the Linguistics Seminar.</p> <p>Apart from that, we are not aware of any national or institutional education programmes on research integrity underway in New Zealand.</p>
Question 5:	<p>Is there anything else we need to know about research integrity in your economy?</p> <p>We draw your attention to a related activity which may be of interest: the RSNZ is developing researcher guidelines for public engagement as part of the Government's plan <i>A Nation of Curious Minds He Whenua Hihiri I Te Mahara; A National Strategic Plan for Science in Society</i>. The Society is currently seeking stakeholder feedback on the draft guidelines. The goal is that the research community as individuals, and their employer institutions, will ultimately adopt these guidelines as a helpful way to identify and promote good research practice.</p> <p>The draft guidelines recognise that there are important public benefits when researchers, scholars and scientists actively share important knowledge, that a better informed community is more comfortable with research and scholarly outcomes, and values knowledge, and that society expects to know what researchers are doing with public money. The draft guidelines are based on four principles:</p> <ol style="list-style-type: none"> 1. Informed society: society invests in the application and advancement of knowledge in order to advance as well as protect its citizens' well-being and, therefore, generally has the right to be informed. 2. Awareness of context and obligations: society creates laws that provide for differing employment contexts and intellectual property rights that need to be considered when informing the public. 3. Integrity and trust: the public expects researchers to act with integrity and professionalism so as to instil trust in what they say. 4. Transparency: the public has a right to be informed by researchers of any matter or affiliation that might call into question their personal objectivity. <p>Refer: http://www.royalsociety.org.nz/events/consultation-meetings-researcher-guidelines-for-public-engagement/</p> <p>The draft guidelines relating to integrity and trust are of particular relevance to this APEC project seeking to establish guidelines for research integrity. They can be found in the consultation document at:</p> <p>http://www.royalsociety.org.nz/media/2016/01/Consultation-draft-researcher-guidelines-for-public-engagement.pdf</p> <p>As a final point, we note that the Global Research Council, which involves a number of APEC countries, and with which New Zealand is involved through the Ministry of Business, Innovation and Employment, is doing work on research integrity, and has developed a set of principles. We consider it important that the APEC Guiding Principles for Research Integrity project, which Australia is leading, align with that work.</p>

Refer: <http://www.globalresearchcouncil.org/documents#researchintegrity>

The Royal Society of New Zealand is also involved in some work the International Council for Science (ICSU) is doing which is relevant to this current Australia-led project:

<http://www.icsu.org/freedom-responsibility/research-integrity>

6. Peru



Australian Government
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Asia-Pacific
Economic Cooperation

APEC Researcher Mobility Workshop

Bringing together research
opportunities and institutional
linkages across the Asia-Pacific

APEC Research Integrity Survey

The Australia-APEC Researcher Mobility Workshop brought together prominent academics, university leaders, governments, and research organisations from across the Asia-Pacific to discuss and identify ways of promoting and supporting the mobility of research students and researchers and of enhancing research innovation. The workshop and related activities are directly relevant to the 2012 APEC Economic Leaders' Declaration on Promoting Cross-Border Education Cooperation, which instructs Ministers and officials to take forward priorities relating to mobility.

The workshop identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. Australia will share the findings of this survey through APEC EDNET in 2016.

Please send completed surveys to AustraliaAPEC@education.gov.au by 11 March 2016.

Economy:	Peru
Contact name:	Shirley Andrade
Contact job title:	Advisor, Directorate on Programs and Policies, at CONCYTEC
Contact email:	sandrade@concytec.gob.pe

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	No

<p>Question 2:</p>	<p>Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.</p> <p>We don't have one major government body in charge of research integrity management, this function is decentralized, therefore the different public research institutions have their own Research Ethics Committee.</p>
<p>Question 3:</p>	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>Yes, you can find the one from the Universidad Peruana Cayetano Heredia in this link: http://www.upch.edu.pe/vrinve/duict/index.php/regulacion/integridad</p> <p>Also, there are Research Ethics Committee in every Public Research Institution. In this link we have guidelines for those Research Ethics Committees: http://www.ins.gob.pe/insvirtual/images/otrpubs/pdf/Guia%20Comit%C3%A9s%20de%20etica.pdf</p>
<p>Question 4:</p>	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>There is one virtual course organized by the Universidad Peruana Cayetano Heredia with the support of the Fogarty International Center: http://www.cri.andeanquipu.org/index.php/es/</p>
<p>Question 5:</p>	<p>Is there anything else we need to know about research integrity in your economy?</p>

7. Singapore



Australian Government
Department of Education and Training



Asia-Pacific
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The workshop identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. Australia will share the findings of this survey through APEC EDNET in 2016.

Please send completed surveys to AustraliaAPEC@education.gov.au by 11 March 2016.

Economy:	Singapore
Contact name:	Pauline Erica Tay
Contact job title:	Deputy Director, Strategy/Innovation & Enterprise, National Research Foundation
Contact email:	Pauline_tay@nrf.gov.sg

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey.
	Singapore's Statement on Research Integrity can be found here: http://www.singaporestatement.org/ http://www.singaporestatement.org/downloads/singapore%20statement_A4size.pdf Article on NCBI: http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3954607/

	<p>Singapore hosted the 2nd World Conference on Research Integrity: http://www.worldscientific.com/worldscibooks/10.1142/8102 https://www3.ntu.edu.sg/wcri2010/press/Speeches/Delivered.pdf</p> <p>Details of documents developed: http://www.worldscientific.com/doi/suppl/10.1142/8102/suppl_file/8102_intro.pdf http://www.worldscientific.com/doi/suppl/10.1142/8102/suppl_file/8102_chap02.pdf http://www.worldscientific.com/doi/suppl/10.1142/8102/suppl_file/8102_chap14.pdf</p> <p>Singapore also has an Ethics Guidelines for Human Biomedical Research: http://www.bioethics-singapore.org/index/publications/reports.html</p>
<p>Question 2:</p>	<p>Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.</p> <p>The Agency for Science, Technology and Research (A*STAR), together with the universities, National University of Singapore (NUS) and the Nanyang Technological University (NTU), lead public research in Singapore, and work closely to develop the research integrity framework and align guidelines and codes of conduct of each organisation.</p>
<p>Question 3:</p>	<p>Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.</p> <p>Yes, here are some examples:</p> <ul style="list-style-type: none"> • A*STAR: https://www3.ntu.edu.sg/wcri2010/press/track/Opening%20and%20Plenary%20Sessions/22%20July%20-%20Plenary%201/Research%20Integrity%20EH%20Lee.pdf • NUS policy can be found here and attached: http://www.nus.edu.sg/dpr/Governance/integrity.html • NTU's policy can be found here: http://research.ntu.edu.sg/guides/Documents/Research%20Integrity/Part%201_NTU%20Research%20Integrity%20Policy%20-%202014Nov2013%20Clean%20Ver%20tm060314.pdf • The Ministry of Health has an Operational Guideline for Institutional Review Boards: https://www.moh.gov.sg/content/dam/moh_web/Publications/Guidelines/Human%20Biomedical%20Research/2007/IRB%20Operational%20Guidelines_14-12-07_formatted.pdf
<p>Question 4:</p>	<p>Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.</p> <p>The NUS Graduate School for Integrative Sciences and Engineering holds a compulsory course on research integrity for its graduate students:</p> <p>GS6001 (Research Ethics and Scientific Integrity)</p> <p>The module covers issues that any graduate student in science and engineering shall face at some point during their PhD candidature and in their subsequent academic careers. Through lectures, discussions and presentations, students shall ponder on and analyse ethical issues and dilemmas associated with data archival, mentoring, authorship, credit sharing and conflicts of interest. They shall rationalise internationally sanctioned rules and regulations in dealing with ethically sensitive research subjects. They shall be taught sensible and appropriate approaches in dealing with incidents of scientific misconduct, and how ethical integrity should and could be maintained in spite of research intensity and competition.</p> <p>NTU also runs a Research Integrity Policy course: http://research.ntu.edu.sg/ResearchIntegrity/Pages/default.aspx</p>

Question 5:	Is there anything else we need to know about research integrity in your economy?
	NIL

8. Thailand



Australian Government
Department of Education and Training



Asia-Pacific
Economic Cooperation

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Bringing together research opportunities and institutional linkages across the Asia-Pacific

APEC Research Integrity Survey

The Australia-APEC Researcher Mobility Workshop brought together prominent academics, university leaders, governments, and research organisations from across the Asia-Pacific to discuss and identify ways of promoting and supporting the mobility of research students and researchers and of enhancing research innovation. The workshop and related activities are directly relevant to the 2012 APEC Economic Leaders' Declaration on Promoting Cross-Border Education Cooperation, which instructs Ministers and officials to take forward priorities relating to mobility.

The workshop identified the need for APEC economies to closely examine the issue of research integrity. This survey seeks to gather existing policies, codes, procedures and processes on research integrity management among APEC economies. Australia will share the findings of this survey through APEC EDNET in 2016.

Please send completed surveys to AustraliaAPEC@education.gov.au by 11 March 2016.

Economy:	Thailand
Contact name:	Ms. Chadarat Singhadechakul
Contact job title:	Director, Bureau of International Cooperation Strategy, Office of the Higher Education Commission
Contact email:	

Question 1:	Do you have a national code or policies on research integrity management in your economy? Please attach the relevant documents with this survey. The National Research Council of Thailand (NRCT) has published and distributed the Ethical Guideline for Research and Practices in 2011. The guideline suggests how to conduct the research based on ethics and research professional, which includes morality, responsibility,
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	regulations, and plagiarism. Moreover, every university and research institute has set their own code of conduct or ethical codes that researchers are required to follow.
Question 2:	Who are the major government bodies on research integrity management in your economy? Please state the function of these bodies in regards to research integrity management.
	The National Research Council of Thailand (NRCT), a government agency, operates under the direct command of the Prime Minister. NRCT is responsible for not only formulating National Research Policy and related strategies but also developing guidelines for researchers. To ensure that all research work will be conducted in a proper way, researchers are required to conform to the ethical guideline.
Question 3:	Are you aware of universities and research institutions that have policies and codes on research integrity in your economies? Please attach the relevant documents with this survey.
	Each university and research institute has set their own code of conduct which aligns with the Ethical Guideline for Research and Practices of NRCT.
Question 4:	Are you aware of any national and/or institutional education programs on research integrity in your economies? Please list the names of the programs.
Question 5:	Is there anything else we need to know about research integrity in your economy?
	Thailand Research Fund (TRF) is another national funding body that promotes research integrity alongside NRCT

Singapore Statement on Research Integrity

Preamble. The value and benefits of research are vitally dependent on the integrity of research. While there can be and are national and disciplinary differences in the way research is organized and conducted, there are also principles and professional responsibilities that are fundamental to the integrity of research wherever it is undertaken.

----- PRINCIPLES -----

Honesty in all aspects of research **Accountability** in the conduct of research **Professional courtesy and fairness** in working with others **Good stewardship** of research on behalf of others

RESPONSIBILITIES

- 1. Integrity:** Researchers should take responsibility for the trustworthiness of their research.
- 2. Adherence to Regulations:** Researchers should be aware of and adhere to regulations and policies related to research.
- 3. Research Methods:** Researchers should employ appropriate research methods, base conclusions on critical analysis of the evidence and report findings and interpretations fully and objectively.
- 4. Research Records:** Researchers should keep clear, accurate records of all research in ways that will allow verification and replication of their work by others.
- 5. Research Findings:** Researchers should share data and findings openly and promptly, as soon as they have had an opportunity to establish priority and ownership claims.
- 6. Authorship:** Researchers should take responsibility for their contributions to all publications, funding applications, reports and other representations of their research. Lists of authors should include all those and only those who meet applicable authorship criteria.
- 7. Publication Acknowledgement:** Researchers should acknowledge in publications the names and roles of those who made significant contributions to the research, including writers, funders, sponsors, and others, but do not meet authorship criteria.
- 8. Peer Review:** Researchers should provide fair, prompt and rigorous evaluations and respect confidentiality when reviewing others' work.
- 9. Conflict of Interest:** Researchers should disclose financial and other conflicts of interest that could compromise the trustworthiness of their work in research proposals, publications and public communications as well as in all review

activities.

10. Public Communication: Researchers should limit professional comments to their recognized expertise when engaged in public discussions about the application and importance of research findings and clearly distinguish professional comments from opinions based on personal views.

11. Reporting Irresponsible Research Practices: Researchers should report to the appropriate authorities any suspected research misconduct, including fabrication, falsification or plagiarism, and other irresponsible research practices that undermine the trustworthiness of research, such as carelessness, improperly listing authors, failing to report conflicting data, or the use of misleading analytical methods.

12. Responding to Irresponsible Research Practices: Research institutions, as well as journals, professional organizations and agencies that have commitments to research, should have procedures for responding to allegations of misconduct and other irresponsible research practices and for protecting those who report such behavior in good faith. When misconduct or other irresponsible research practice is confirmed, appropriate actions should be taken promptly, including correcting the research record.

13. Research Environments: Research institutions should create and sustain environments that encourage integrity through education, clear policies, and reasonable standards for advancement, while fostering work environments that support research integrity.

14. Societal Considerations: Researchers and research institutions should recognize that they have an ethical obligation to weigh societal benefits against risks inherent in their work.

The Singapore Statement on Research Integrity was developed as part of the 2nd World Conference on Research Integrity, 21-24 July 2010, in Singapore, as a global guide to the responsible conduct of research. It is not a regulatory document and does not represent the official policies of the countries and organizations that funded and/or participated in the Conference. For official policies, guidance, and regulations relating to research integrity, appropriate national bodies and organizations should be consulted. Available at: www.singaporestatement.org

Appendix C

Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations

Preamble. Research collaborations that cross national, institutional, disciplinary and sector boundaries are important to the advancement of knowledge worldwide. Such collaborations present special challenges for the responsible conduct of research, because they may involve substantial differences in regulatory and legal systems, organizational and funding structures, research cultures, and approaches to training. It is critically important, therefore, that researchers be aware of and able to address such differences, as well as issues related to integrity that might arise in cross-boundary research collaborations. Researchers should adhere to the professional responsibilities set forth in the *Singapore Statement on Research Integrity*. In addition, the following responsibilities are particularly relevant to collaborating partners at the individual and institutional levels and fundamental to the integrity of collaborative research. Fostering the integrity of collaborative research is the responsibility of all individual and institutional partners.

Responsibilities of Individual and Institutional Partners in Cross-Boundary Research Collaborations

General Collaborative Responsibilities

- 1. Integrity.** Collaborating partners should take collective responsibility for the trustworthiness of the overall collaborative research and individual responsibility for the trustworthiness of their own contributions.
- 2. Trust.** The behavior of each collaborating partner should be worthy of the trust of all other partners. Responsibility for establishing and maintaining this level of trust lies with all collaborating partners.
- 3. Purpose.** Collaborative research should be initiated and conducted for purposes that advance knowledge to the benefit of humankind.
- 4. Goals.** Collaborating partners should agree at the outset on the goals of the research. Changes in goals should be negotiated and agreed to by all partners.

Responsibilities in Managing the Collaboration

- 5. Communication.** Collaborating partners should communicate with each other as frequently and openly as necessary to foster full, mutual understanding of the research.
- 6. Agreements.** Agreements that govern collaborative research should be understood and ratified by all collaborating partners. Agreements that unduly or unnecessarily restrict dissemination of data, findings or other research products should be avoided.
- 7. Compliance with Laws, Policies and Regulations.** The collaboration as a whole should be in compliance with all laws, policies and regulations to which it is subject. Collaborating partners should promptly determine how to address conflicting laws, policies or regulations that apply to the research.
- 8. Costs and Rewards.** The costs and rewards of collaborative research should be distributed fairly among collaborating partners.
- 9. Transparency.** Collaborative research should be conducted and its results disseminated transparently and honestly, with as much openness as possible under existing agreements. Sources of funding should be fully and openly declared.
- 10. Resource Management.** Collaborating partners should use human, animal, financial and other resources responsibly.
- 11. Monitoring.** Collaborating partners should monitor the progress of research projects to foster the integrity and the timely completion and dissemination of the work.

Responsibilities in Collaborative Relationships

- 12. Roles and Responsibilities.** Collaborating partners should

come to mutual understandings about their roles and responsibilities in the planning, conduct and dissemination of research. Such understandings should be renegotiated when roles or responsibilities change.

13. Customary Practices and Assumptions. Collaborating partners should openly discuss their customary practices and assumptions related to the research. Diversity of perspectives, expertise and methods, and differences in customary practices, standards and assumptions that could compromise the integrity of the research should be addressed openly.

14. Conflict. Collaborating partners should seek prompt resolution of conflicts, disagreements and misunderstandings at the individual or institutional level.

15. Authority of Representation. Collaborating partners should come to agreement on who has authority to speak on behalf of the collaboration.

Responsibilities for Outcomes of Research

16. Data, Intellectual Property and Research Records. Collaborating partners should come to agreement, at the outset and later as needed, on the use, management, sharing and ownership of data, intellectual property, and research records.

17. Publication. Collaborating partners should come to agreement, at the outset and later as needed, on how publication and other dissemination decisions will be made.

18. Authorship and Acknowledgement. Collaborating partners should come to agreement, at the outset and later as needed, on standards for authorship and acknowledgement of joint research products. The contributions of all partners, especially junior partners, should receive full and appropriate recognition. Publications and other products should state the contributions of all contributing parties.

19. Responding to Irresponsible Research Practices. The collaboration as a whole should have procedures in place for responding to allegations of misconduct or other irresponsible research practice by any of its members. Collaborating partners should promptly take appropriate action when misconduct or other irresponsible research practice by any partner is suspected or confirmed.

20. Accountability. Collaborating partners should be accountable to each other, to funders and to other stakeholders in the accomplishment of the research.

The Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations was developed as part of the 3rd World Conference on Research Integrity, 5-8 May 2013, in Montreal, as a global guide to the responsible conduct of research. It is not a regulatory document and does not represent the official policies of the countries or organizations that funded or participated in the Conference.

Appendix D

Australian Code for the Responsible Conduct of Research:



Australian_code_responsible_conduct_research.pdf

Appendix E

The Macquarie University Code for the Responsible Conduct of Research:



The Macquarie University Macquarie Code - Responsible Conduct of Research.pdf

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- Office of Research Integrity, National Institute of Health US (<https://ori.hhs.gov>)
- Office of Inspector General, National Sciences Foundation (<https://ori.hhs.gov>)
- Panel on Responsible Conduct for Research Canada (<http://www.rcr.ethics.gc.ca/eng/policy-politique/framework-cadre/>)
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