

Harmonisation of research integrity initiatives in Asia and Asia-Pacific

Positive impacts of small research integrity networks

Daniel Barr

Deakin University

Australia



- Asia
- Largest and most populous continent
- Diverse and dynamic research cultures
- Asia-Pacific research cultures add to this diversity

More around the corner

Please consider the following
"harmonised"
research from Asia
and Asia-Pacific

Which of the following published X-ray crystallography data are reported by researchers based in Asia and Asia-Pacific?

a)

Table 1. Crystallographic data collection and refinement statistics

	HLA-DP5·Cry j 1(9-mer)
<i>Data collection</i>	
Space group	P1
Cell dimensions	
a, b, c (Å)	61.2, 64.4, 130.4
α, β, γ (°)	93.0, 97.5, 109.4
Resolution (Å)	64–2.4 (2.49–2.40) ^{a,b}
R _{sym}	0.116 (0.563)
I/σI	12.3 (3.05)
Completeness (%)	97.4 (95.6)
Redundancy	3.5 (3.4)
<i>Refinement</i>	
Resolution (Å)	64.0–2.4
No. of reflections	70,445
R _{work} /R _{free}	0.201/0.237
No. of atoms	
Protein	12,380
Ligand	56
Water	267
B-factors	
Protein	29.1
Ligand	27.6
Water	29.8
rmsd	
Bond lengths (Å)	0.005
Bond angles (°)	1.07

^a One crystal was used for data collection and refinement.
^b Values in parentheses are for the highest-resolution shell.

b)

Table 1. Data collection and refinement statistics

	Data set 1	Data set 2	Merged
<i>Data collection</i>			
Space group	P3 ₁ 21	P3 ₁ 21	P3 ₁ 21
Cell dimensions			
a, b, c (Å)	157.5, 157.5, 61.8	157.2, 157.2, 61.8	157.3, 157.3, 61.8
α, β, γ (°)	90, 90, 120	90, 90, 120	90, 90, 120
Resolution (Å)	50–3.5	50–3.25	50–3.25
	(3.69–3.5)	(3.43–3.25)	(3.43–3.25)
R _{pim} (%)	13.5 (51.3)	6.9 (33.5)	11.2 (33.5)
R _{merge} (%)	18.5 (99.3)	13.9 (98.8)	
I/σI	8.3 (1.9)	11.2 (2.3)	12.3 (2.3)
Completeness (%)	100 (100)	87.1 (89.1)	100 (89.1)
Redundancy	7.1 (7.3)	6.0 (6.0)	12.3 (6.0)
<i>Refinement</i>			
Resolution (Å)			50–3.25
			(3.33–3.25)
No. reflections			12,130
			(1,940)
R _{work} /R _{free} *			22.6/25.1
			(33.1/35.2)
No. molecules in ASU			1
No. atoms			
Protein			3,115
Carbohydrate			42
Water			0
B factors			
Overall			102.8
Peptide			101.1
Carbohydrates			116.3
Rmsd			
Bond lengths (Å)			0.007
Bond angles (°)			1.15

R_{pim}, redundancy-independent merging R factor; ASU, asymmetric units.
Data for outer shell shown in parentheses.
*R_{free} test set size 5%, 704.

c)

Table 1. Data collection and refinement statistics

	DQ2.5–CLIP 1	DQ2.5–CLIP 2
<i>Data collection</i>		
Space group	C121	I23
Cell dimension		
a, b, c (Å)	128.86, 69.21, 146.69	137.01, 137.01, 137.01
α, β, γ (°)	90, 110.3, 90	90, 90, 90
Resolution (Å)	2.73	2.20
R _{merge}	10.0	12.9
I/σI	11.7	12.7
Completeness %	93.7	99.65
Redundancy	3.5	6.5
<i>Refinement</i>		
Resolution (Å)	39.26 to 2.73	36.62–2.20
	(2.80–2.73)	(2.30–2.20)
Number of reflections	29676	21938
R _{work} / R _{free}	0.187/0.247	0.171/0.208
	(0.29–0.37)	(0.231–0.296)
Number of atoms	6144	3176
Protein	6027	3003
Water	117	173
B-factors	45.0	28.1
Protein	36.6	28.1
Water	28.1	29.3
r.m.s deviations		
Bond length (Å)	0.01	0.01
Bond angle (°)	1.24	1.12
Ramachandran	96.3	98.1

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USA

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Singapore

Which of the following authorship contribution statements for articles recently published in the open access journal *PLoS ONE* are reported by researchers based in Asia and Asia-Pacific?

a)

Conceptualization: HJK MYK YSS JHK.

Data curation: HJK YSS JHK.

Formal analysis: C-MC HJK.

Funding acquisition: MYK.

Investigation: HJK MYK YSS JHK.

Methodology: JJ HJK.

Project administration: MYK.

Resources: JJ S-HK C-MC.

Software: YSS JHK HJK.

Supervision: MYK.

Validation: JJ S-HK.

Visualization: HJK.

Writing – original draft: HJK MYK C-MC.

Writing – review & editing: HJK MYK YSS S-HK C-MC.

b)

Conceptualization: A LCK EK LSM EH MN SS YT.

Data curation: LCK LSM EH PW.

Formal analysis: LCK PW YT.

Funding acquisition: SS YT.

Investigation: A LCK EK LSM EH.

Methodology: A LCK EK PW YT MN.

Project administration: A LCK LSM EH.

Resources: A LCK EK.

Software: PW YT.

Supervision: A MN SS YT.

Validation: A EK MN SS YT.

Visualization: A LCK EK LSM EH PW YT.

Writing – original draft: LCK.

Writing – review & editing: A LCK EK PW YT SS.

c)

Conceptualization: TB HJ RJ BV.

Data curation: TB RK.

Formal analysis: TB.

Funding acquisition: HJ UB.

Investigation: TB KS AN TD YT TT RK.

Methodology: TB GT BV.

Project administration: HJ.

Resources: HJ YT TT UB TD BN.

Supervision: HJ PS UB GV.

Validation: TB AN YT.

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Korea

b)

Conceptualization: A LCK EK LSM EH MN SS YT.

Data curation: LCK LSM EH PW.

Formal analysis: LCK PW YT.

Funding acquisition: SS YT.

Investigation: A LCK EK LSM EH.

Methodology: A LCK EK PW YT MN.

Project administration: A LCK LSM EH.

Resources: A LCK EK.

Software: PW YT.

Supervision: A MN SS YT.

Validation: A EK MN SS YT.

Visualization: A LCK EK LSM EH PW YT.

Writing – original draft: LCK.

Writing – review & editing: A LCK EK PW YT SS.

Thailand

c)

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Data curation: TB RK.

Formal analysis: TB.

Funding acquisition: HJ UB.

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Resources: HJ YT TT UB TD BN.

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Validation: TB AN YT.

Visualization: TB.

Writing – original draft: TB GT.

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The Netherlands

Which of the following examples of scholarly writing are by researchers based in Asia and Asia-Pacific?

a)

Abstract. The Cold War in the Third World was certainly much more dynamic than a mere clash of power and ideology between the belligerent big powers. In newly emerging areas like Southeast Asia for instance, many of the newly independent states have made clear from the outset that they do not wish to take sides in the Cold War, wanting to be non-aligned. For the United States, however, the Cold War was an uncompromisable situation and held that non-alignment was self-deception, naïve and even dangerous. This essay examines the interplay between the American policy of containment and the Indonesian policy of non-alignment with particular reference to the United States' reactions to Indonesia's relations with the People's Republic of China (PRC). The discussion covers the period from 1950 through to the Bandung Conference in 1955. An examination of the conflict between the American policy of "containment" and Indonesia's policy of "non-alignment" during the 1950s would serve to illustrate that the Cold War in Asia was much more dynamic than just clashes between the belligerent big powers.

b)

Abstract

Chinese feminist cinema in the postsocialist era is shaped by the grand narrative of nation building that glamorizes urban professional career women and their contributions to economic marketization and globalization. Such cinematic overemphasis on urban women proves inadequate as it creates a disturbing silence about the diasporic existence of non-urban women. This uneven condition demands the creation of an alternative cinematic feminism that visualizes the diversity of Chinese women and represents the heterogeneity of feminist cinematic expressions and female experiences. Using Li Yu's *Lost in Beijing* (2007, *Pingguo* 苹果) and Li Yang's *Blind Mountain* (2007, *Mangshan* 盲山) as case studies, this essay investigates how Chinese independent films re-negotiate female gender identity and crisis through commercialized visual realism and social intervention while in reality the postsocialist grand narrative of nation building redefines the living conditions of female migrant workers and women of limited resources.

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Malaysia

b)

Abstract

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USA

Which of the following journals based in Asia and Asia-Pacific support the ARRIVE guidelines?

- A. Turkish Journal of Surgery
- B. Immunology and Cell Biology
- C. Journal of the Anatomical Society of India
- D. Hong Kong Journal of Occupational Therapy
- E. Chinese Journal of Evidence Based Pediatrics
- F. All of the above

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- F. All of the above**

In response to reasonable expectations of the research community, there is already a level of “harmonisation” to research from Asia and Asia-Pacific so that it fulfils the principles of research integrity such as transparency and accountability.

Other components of conducting and reporting research are not “harmonised”.

What other research things should we “harmonise”, and if we do, what do we expect it to deliver?

For research integrity initiatives, what do we mean by "harmonisation"?

Harmonisation

- Unity
 - Togetherness
 - Robustness
 - Standardisation
 - Efficiency
-
- An increase in the capacity or fitness of research to fulfil the principles of research integrity

Harmonisation

- Unity
 - Togetherness
 - Robustness
 - Standardisation
 - Efficiency
 - Sameness
 - Stasis
 - Constraint
 - Loss or reduction of diversity
 - Incompatibility
-
- An increase in the capacity or fitness of research to fulfil the principles of research integrity

We should consider what might be lost or impacted by harmonisation



Harmonisation of research integrity at institutions across Asia and Asia-Pacific



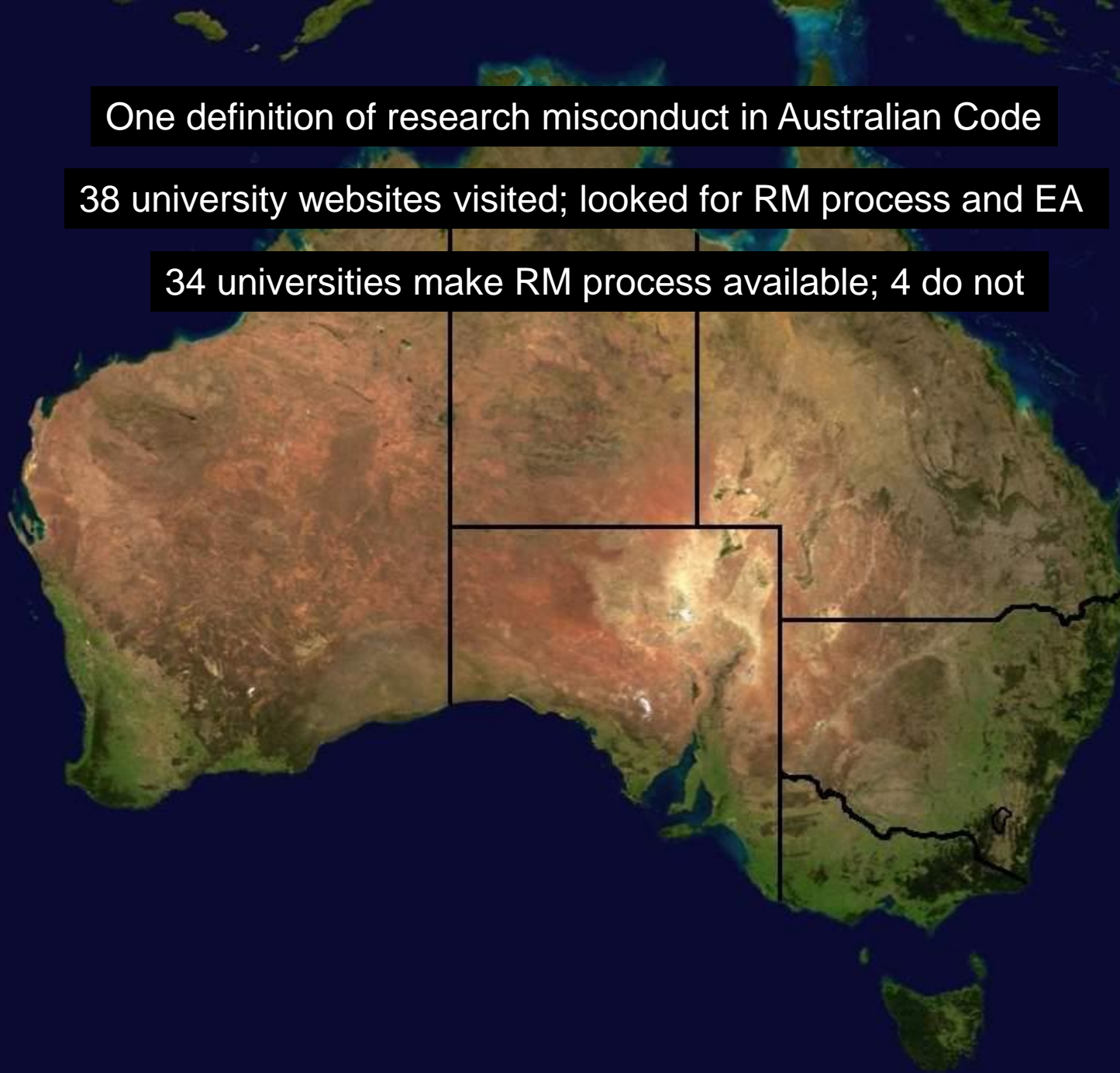
Harmonisation of research integrity at institutions across Asia and Asia-Pacific



One definition of research misconduct in Australian Code

38 university websites visited; looked for RM process and EA

34 universities make RM process available; 4 do not





One definition of research misconduct in Australian Code

38 university websites visited; looked for RM process and EA

34 universities make RM process available; 4 do not

42 different definitions of RM; no shared definition

1 definition
that matches
Aus Code
verbatim

14 individual
definitions

20 modified
versions of
Aus Code
definition

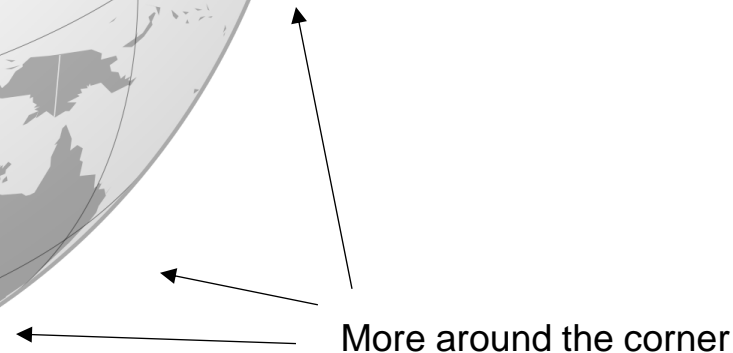
6 “serious
deviations”
and 3 MIM

6 make a distinction between RM and serious RM

21 RM policies make direct reference to EA processes for misconduct



- There isn't an agreed definition of research misconduct in Australia, and sometimes even within an institution
- Institutional approaches to research integrity across Asia and Asia-Pacific appears highly diverse



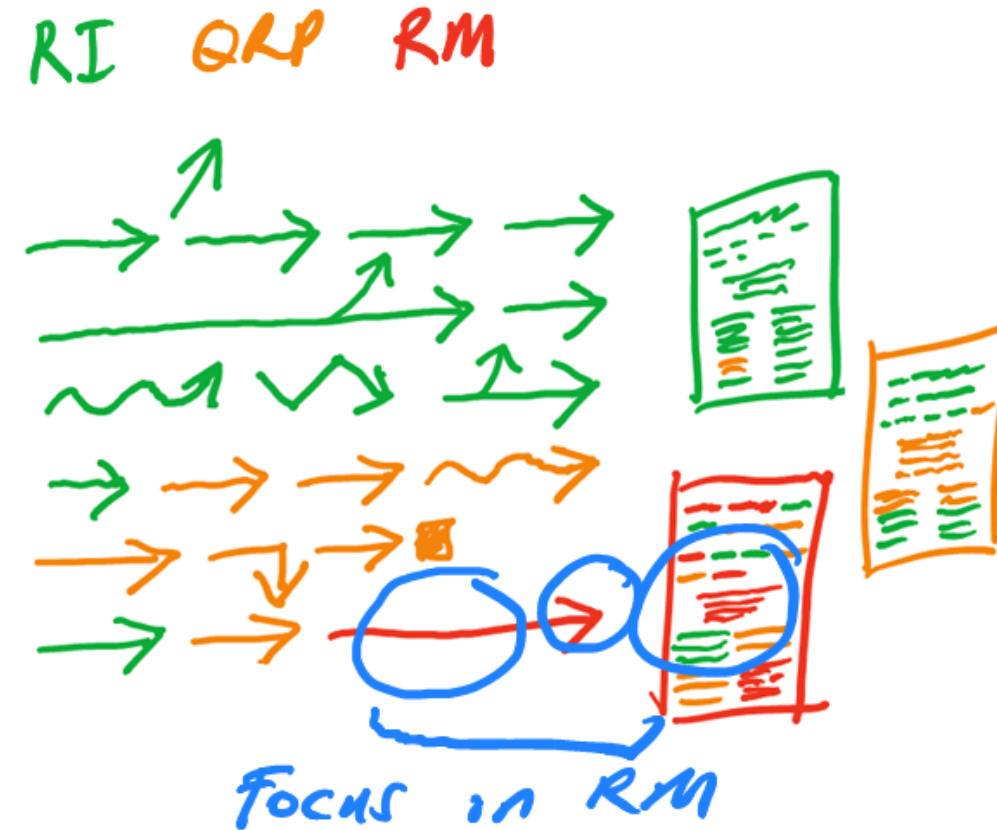
More around the corner

Small research integrity networks

- Enable sharing of ideas and approaches; foster collaboration.
- A mechanism by which new selective pressures can be introduced at institutions to increase the fitness of research to better fulfil the principles of research integrity.
- The new selective pressures may be initiatives that result in harmonisation of research and the management of research at institutions.
- However, this might not be appropriate or even possible given the local ecology present at institutions.
- Local ecosystem and focus of a network are important

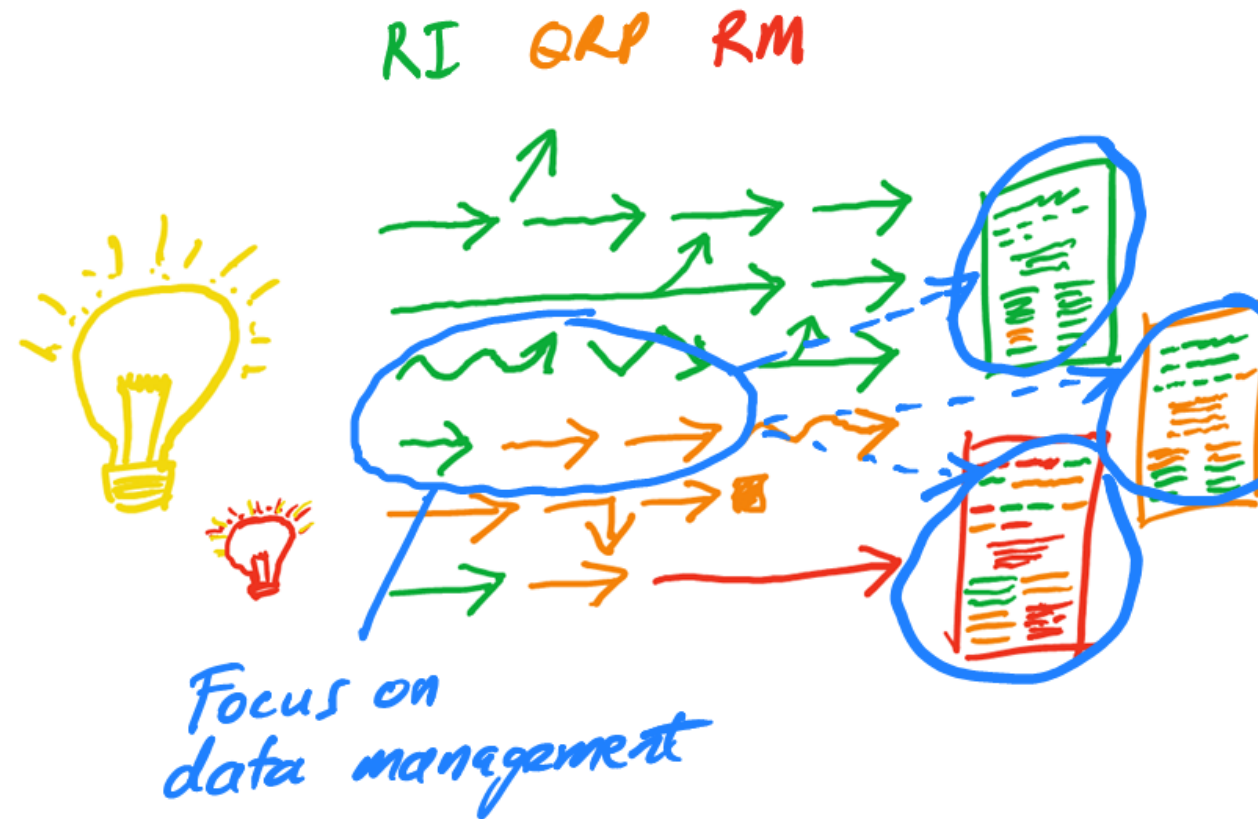
Association of Research Integrity Officers (USA)

- A long recent history of addressing research misconduct
- Increasing interaction with government regulators
- Focus on research misconduct and application of legal framework
- Positive impacts with high precision for improving accountability in research integrity
- Potentially less impactful for addressing other aspects of research integrity



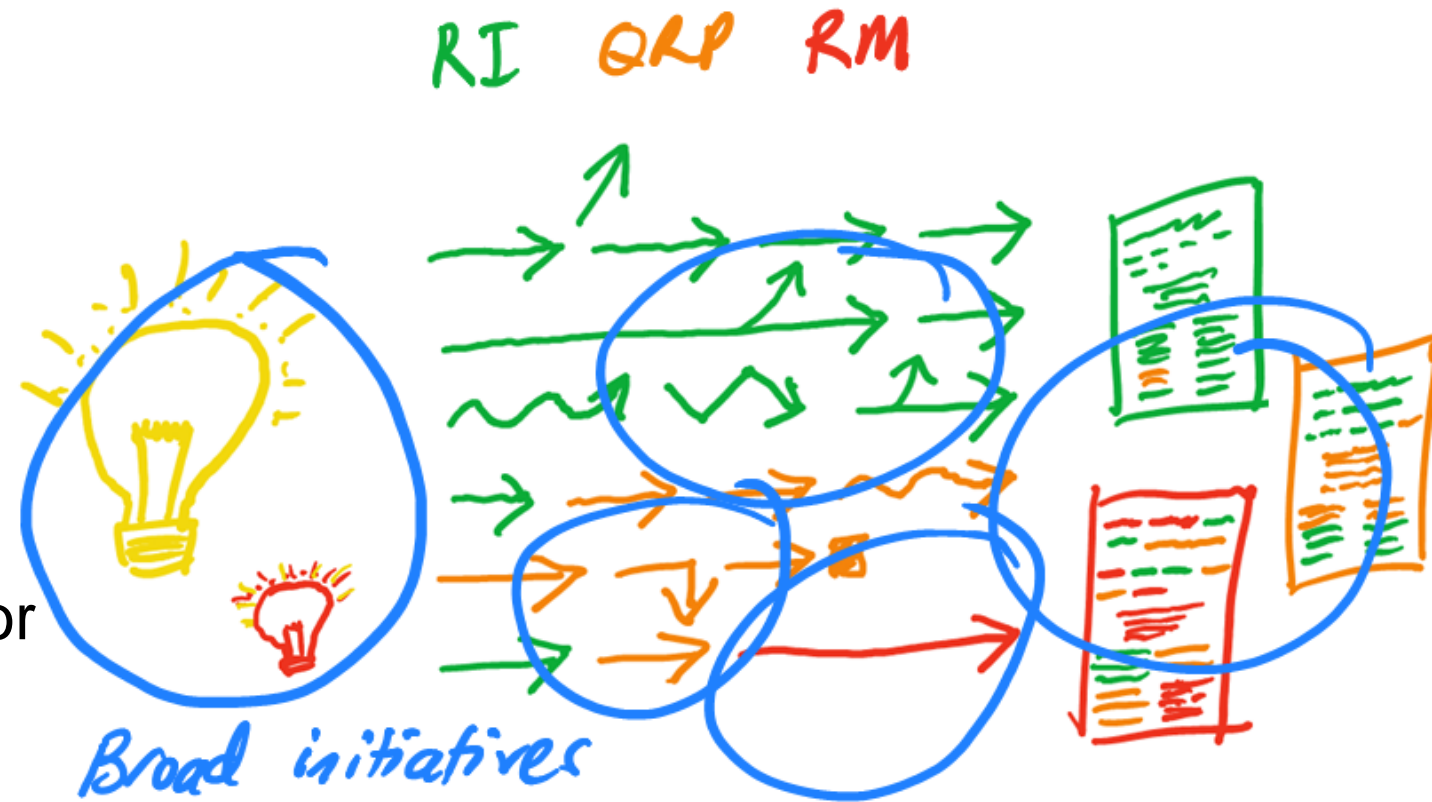
Research Integrity Advisor Data Management Group (Australia)

- Australian National Data Service, Deakin and RMIT, government-based funding agencies, ARMS
- Aims to build national capacity to address research integrity issues in the responsible management of research data via education and training
- Audience = Research Integrity Advisors at institutions
- Potential broad positive impacts for data management and advice



Center for Research Ethics Information (Korea)

- Institutions and government
- Provides information, guidelines, education and training
- Broad discussion
- Online advice and counselling centre for researchers with concerns
- Potential broad positive impacts for all researchers



Asia and Pacific Rim Research Integrity Network (Asia and Asia-Pacific)

- Initiated by the US Office of Research Integrity
- By intelligent design, APRI has rapidly evolved from being a mechanism to build capacity in the investigation of research misconduct to be a forum for institutions to:
 - share and collaborate;
 - to build understanding of differences;
 - to bring lots of different voices together to create new research integrity



The principles of research integrity are

- **Honesty** and **accountability** in all aspects of research.
- **Professional courtesy** and **fairness** in working with others.
- **Good stewardship** of research on behalf of others.

The Singapore Statement on Research Integrity



As it is in Heaven
Lorber Films 2014
IMDb.com

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Kim Gilliland, Catherine Nie, Nicholas Smale (The University of Melbourne, Australia)

Thank you! Dank je wel!