

Australian Government

Australian Research Council

ICT research in the Australian Research Landscape 7 July 2015

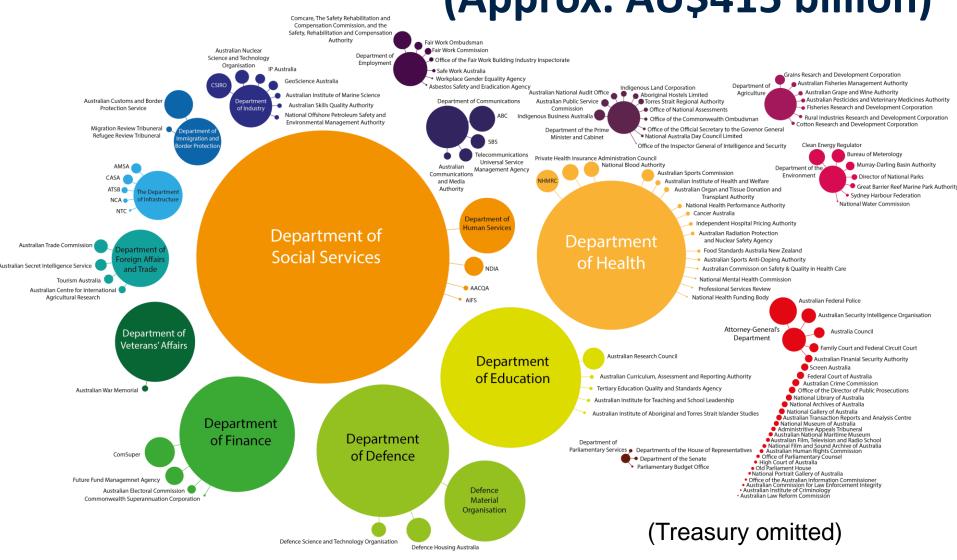
Professor Aidan Byrne CEO, Australian Research Council

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Outline

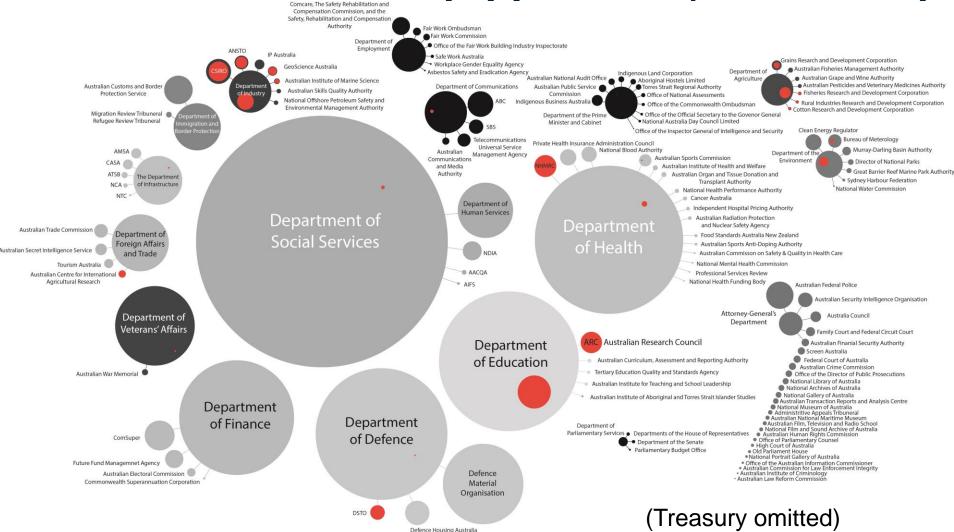
- Current Funding Landscape
- ARC Grants Search
- ICT and NICTA in the grants mix
- Network mapping ICT grants
- ERA
- ATSE

2014–15 Federal Budget (Approx. AU\$415 billion)

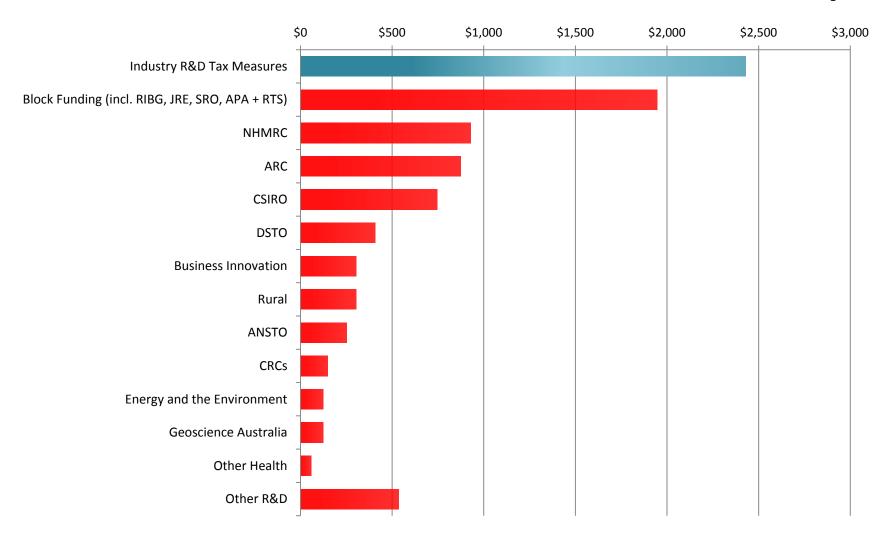


Australian Government support for science, research and innovation shown in red

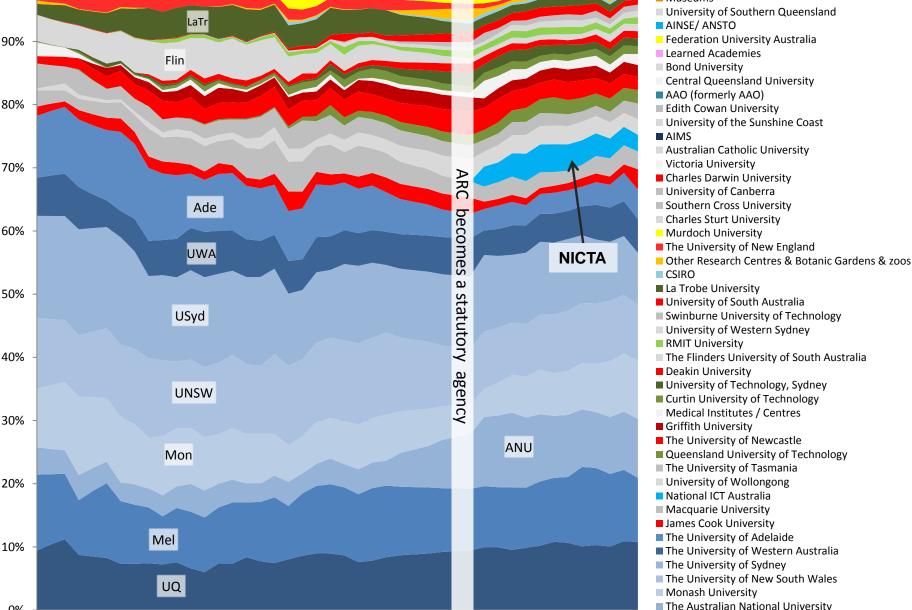
2014–15 Federal Budget (Approx. AU\$415 billion)



Commonwealth Investment in R&D 2014–15 (\$m)



Grants funding by institute (%) 1971–2014 Batchelor Institute of Indigenous Tertiary Education Museums ■ University of Southern Queensland LaTr AINSE/ ANSTO Federation University Australia Learned Academies Flin ■ Bond University Central Queensland University



1971 1973 1975 1977 1979 1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013

100%

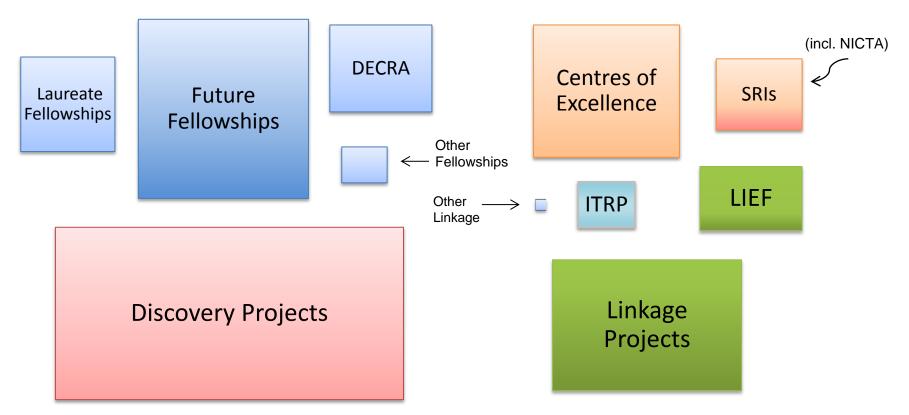
■ The University of Melbourne

■ The University of Queensland

National Competitive Grants Program

Discovery Programs

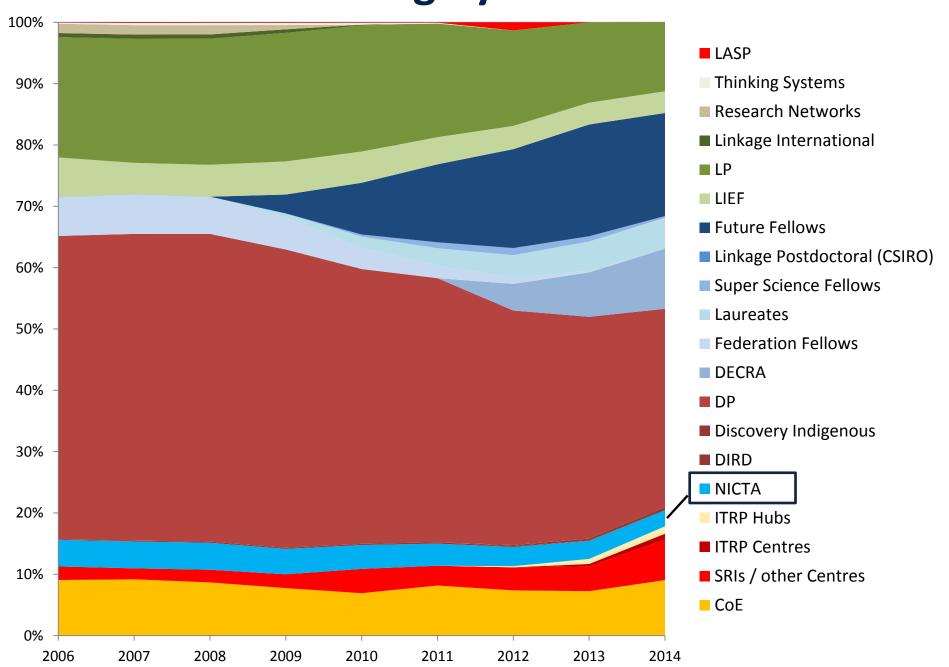
Linkage Programs



Area of box represents \$\$ awarded over the period 2009–2014.

- N.B. Centres of Excellence, SRIs, not awarded in every year.
 - ITRP & DECRA only funding since 2012

ARC NCGP funding by scheme 2006-2014



ARC NCGP funding* by Fields of Research 2002–2014 Physical Sciences 90% **Chemical Sciences** Earth Sciences Environmental Sciences 80% Biological Sciences **Information and Computing Sciences** 70% ■ Agricultural and Veterinary Sciences Engineering 60% Technology ■ Medical and Health Sciences 50% ■ Built Environment and Design Education 40% Economics ■ Commerce, Management, Tourism and Services 30% ■ Studies in Human Society **Psychology and Cognitive Sciences** 20% Law and Legal Studies ■ Studies in Creative Arts and Writing 10% ■ Language, Communication and Culture ■ History and Archaeology 0%

*All grants, excluding NICTA and some co-funded centres and SRIs where Field of Research was not nominated

2013

■ Philosophy and Religious Studies

2012

2011

2009

2008

2002

2003

2004

2005

2006

2007

2010

FOR Network mapping...

STEM disciplines highlighted

01 MATHEMATICAL SCIENCES

02 PHYSICAL SCIENCES

03 CHEMICAL SCIENCES

04 EARTH SCIENCES

05 ENVIRONMENTAL SCIENCES

06 BIOLOGICAL SCIENCES

07 AGRICULTURAL AND VETERINARY SCIENCES

08 INFORMATION AND COMPUTING SCIENCES

09 ENGINEERING

10 TECHNOLOGY

11 MEDICAL AND HEALTH SCIENCES

12 BUILT ENVIRONMENT AND DESIGN

13 EDUCATION

14 ECONOMICS

15 COMMERCE, MANAGEMENT, TOURISM AND SERVICES

16 STUDIES IN HUMAN SOCIETY

17 PSYCHOLOGY AND COGNITIVE SCIENCES

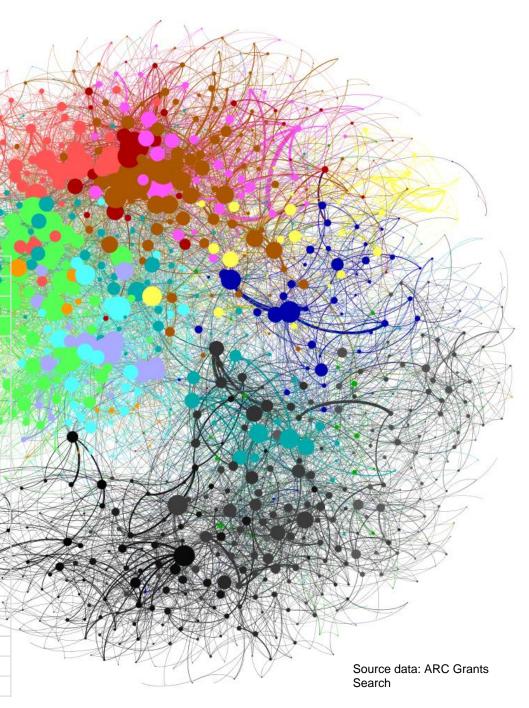
18 LAW AND LEGAL STUDIES

19 STUDIES IN CREATIVE ARTS AND WRITING

20 LANGUAGE, COMMUNICATION AND CULTURE

21 HISTORY AND ARCHAEOLOGY

22 PHILOSOPHY AND RELIGIOUS STUDIES



FOR Network mapping...

08 Codes—ICT disciplines

Aboriginal and Torres Strait Islander Knowledge Management Other Distributed Computing Data Format not elsewhere classified Multimedia Programming Data Encryption **Ubiquitous Computing** Other Computation Theory and Mathematics Other Information and Computing Sciences Mobile Technologies Web Technologies (excl. Web Search) Aboriginal and Torres Strait Islander Information and Knowledge Systems Computer System Security Networking and Communications Markup Languages Coding and Information Theory Mathematical Software Global Information Systems Interorganisational Information Systems and Web Services Organisation of Informationand Knowledge Resources Data Structures Artificial Intelligence and Image Processing Database Management Records and Information Management (excl. Business Records and Information Management) Librarenship Analysis of Algorithms and Complexity Information Systems Management Computational Logic and Formal Languages Information Systems Development Methodologies Pattern Recognition and Data Mining Applied Discrete Mathematics Image Processing Distributed and Grid Systems Information Retrieval and Web Search Computer Vision Programming Languages Natural Language Processing Numerical computation Adaptive Agents and Intelligent Robotics Computer System Architecture Conceptual Modelling Other Computer Software Computer-Human Interaction Software Engineering Information Engineering and Theory and Community Informatics Simulation and Modelling Expert Systems Neural, Evolutionary and Fuzzy Computation Concurrent Programming Bioinformatics Software Open Software Computer Graphics Other Information Systems Decision Support and Group Support Systems Health Informatics Virtual Reality and Related Simulation

0801 Artificial Intelligence and Image Processing 0802 Computation Theory and Mathematics 0803 Computer Software 0804 Data Format 0805 Distributed Computing 0806 Information Systems 0807 Library and Information Studies 0899 Other Information and Computing Sciences

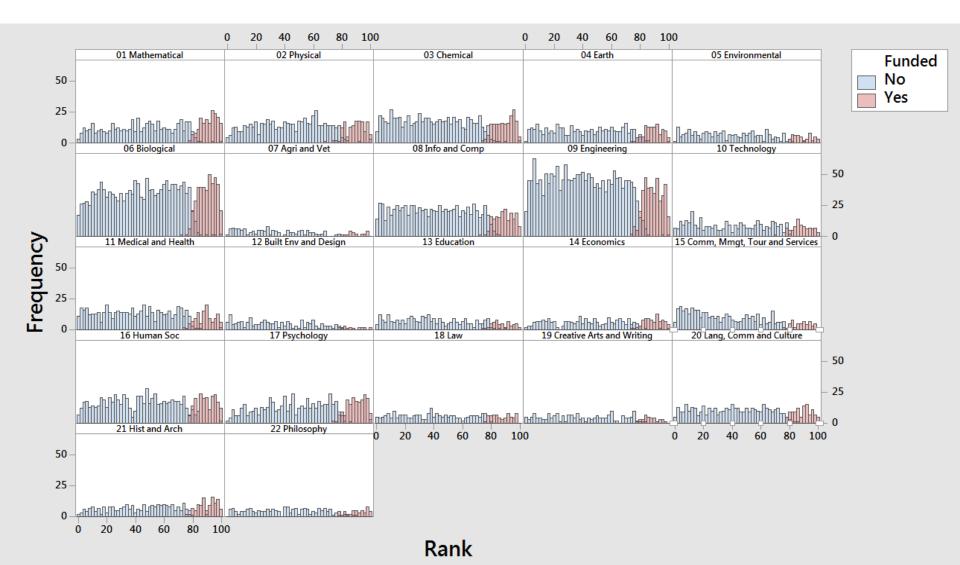
Information Systems Organisation

Information Systems Theory

Artificial Life

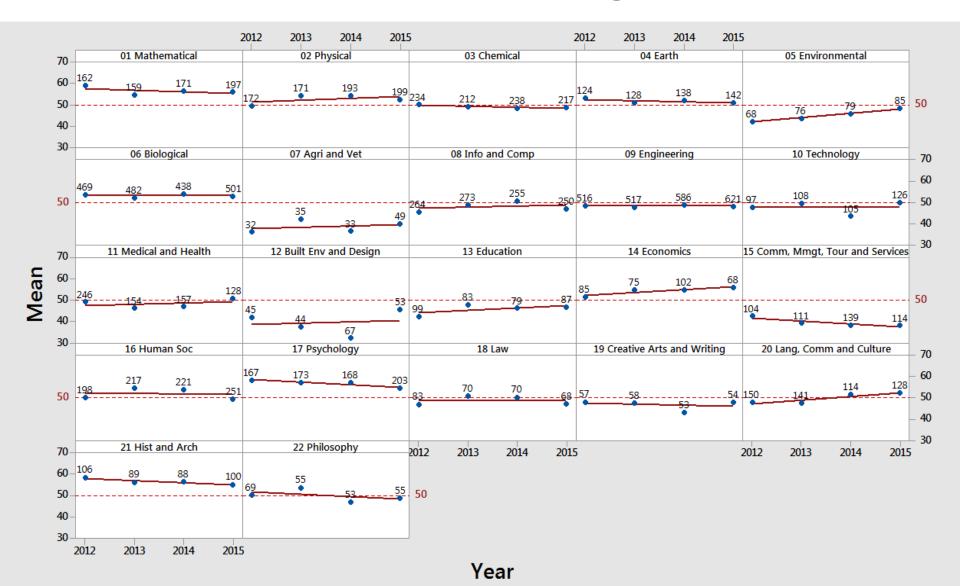
Source data: ARC Grants Search

Histogram of Rank, Discovery Projects 2012–2015

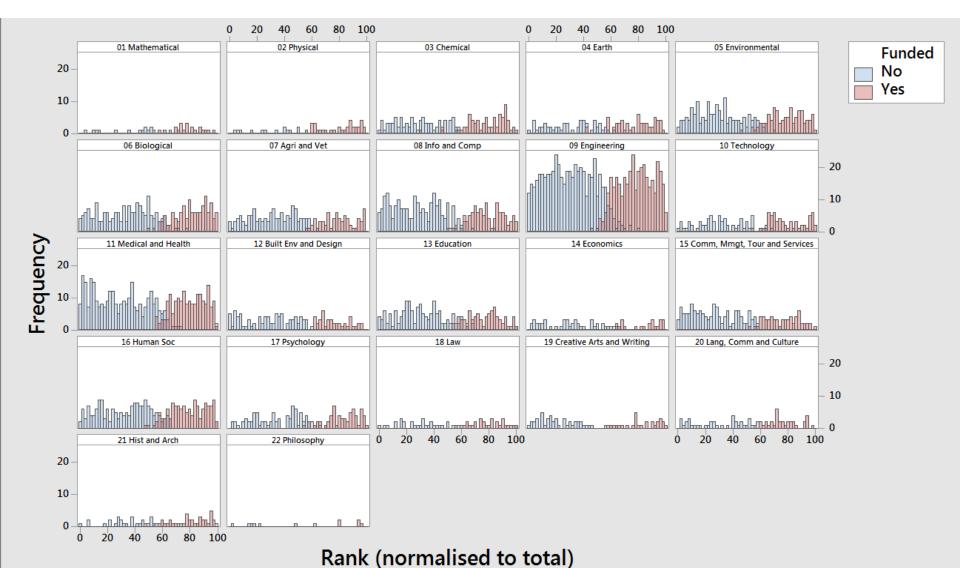


Panel variable: 2D Code

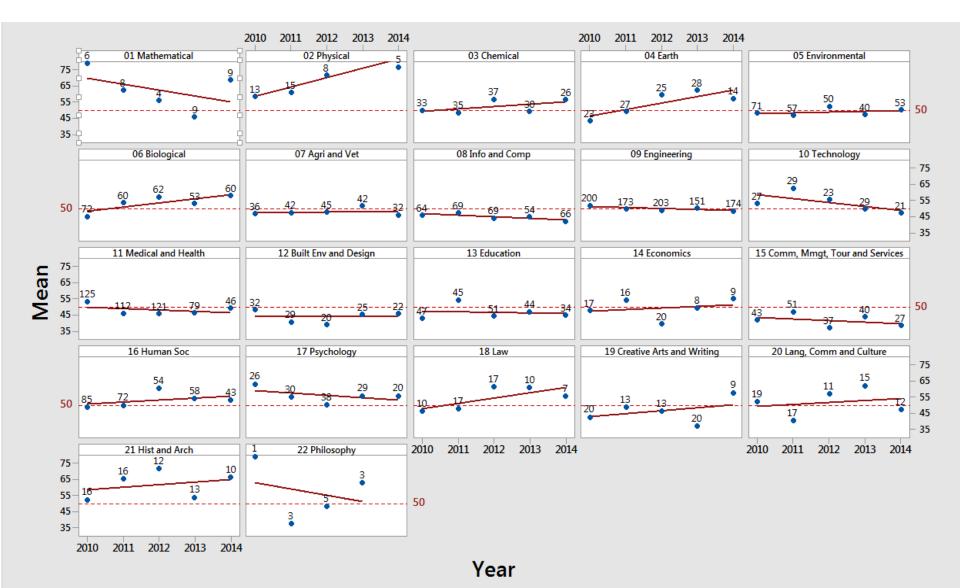
Mean value of normalised rankings, DP 2012-2015



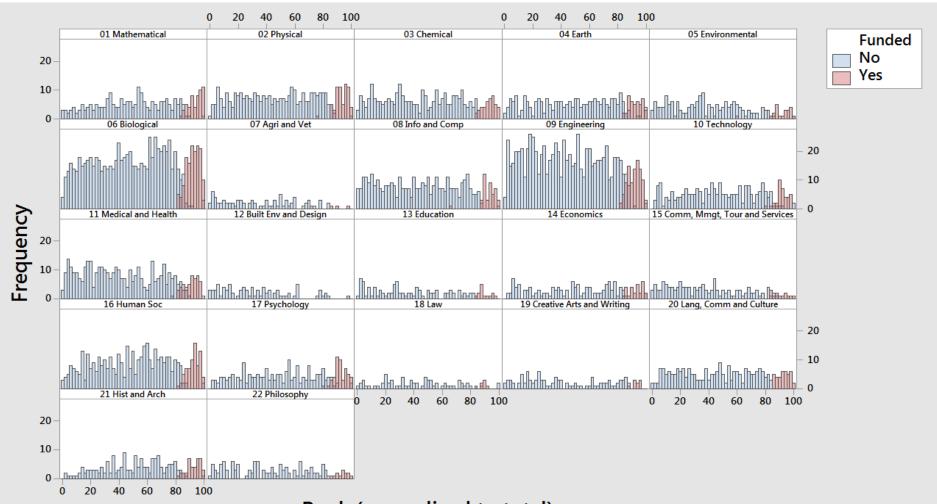
Histogram of Rank, Linkage Projects 2012–2014



Mean value of normalized rankings, LP 2010-2014



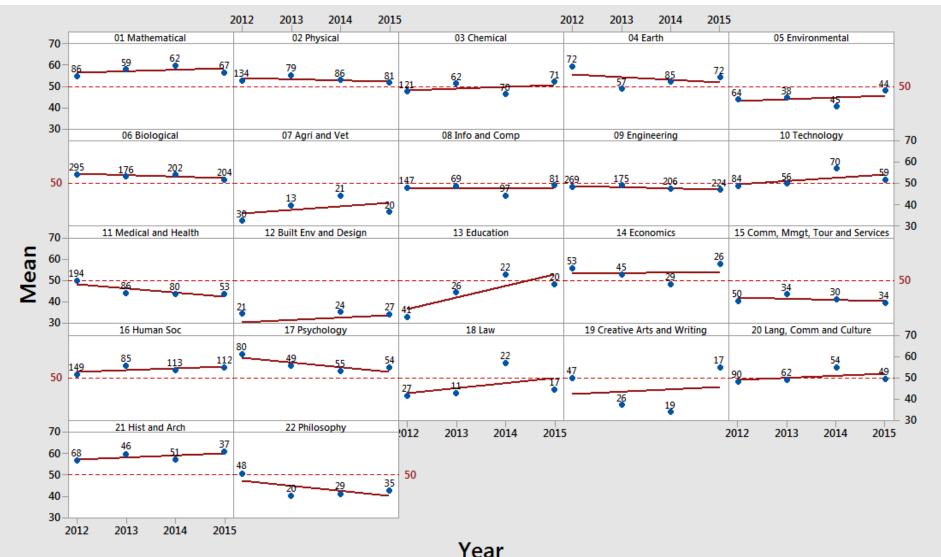
Histogram of Rank (normalised to total) DECRA 2012 –2015



Rank (normalised to total)

Panel variable: 2D Code

Mean value of normalized rankings DECRA 2012- 2015



Excellence in research for Australia







Australian Government Australian Research Council ERA Excellence in Research for Australia





Where is ERA up to?

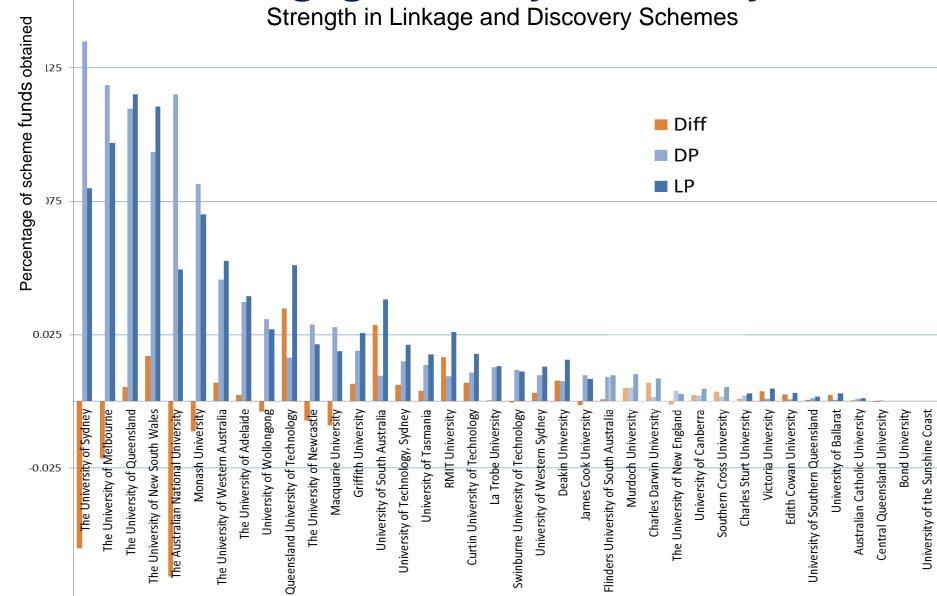
ERA 2015

- 8 Chairs Appointed
- 147 REC members appointed
- Over 1,100 peer reviewers appointed
- Evaluation underway
- Results early December 2015

Post ERA 2015

Work on evaluation metrics for next round

Engagement by University



K

Research