ARC funding and HCA

University of New South Wales

23 July 2014

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Australian Research Council
Questions

- ARC and the funding landscape.
- Patterns of applications and success by discipline/code.
- Panels and cross-disciplinary applications.
- Academic workforce issues: career age, gender, seniority, sector.
- Trends in DECRA.
- Trends in Linkage.
- Linkage, HCA and national research infrastructure.
More information

- [http://www.arc.gov.au/media/ARC_Presentations.htm](http://www.arc.gov.au/media/ARC_Presentations.htm)

ARC and the funding landscape
The ARC

- Mission: *to deliver policy and programs that advance Australian research and innovation globally and benefit the community.*
- Fund direct costs to Universities and partners.
- All disciplines except clinical medicine and dentistry.
Commonwealth Investment in R&D 2013–14

- ARC: 10.23%
- NHMRC: 9.93%
- APA + RTS: 10.93%
- RIBG+JRE+SRE: 8.48%
- Other Higher Ed R&D Support: 3.39%
- CRCs: 1.67%
- Rural: 3.94%
- Energy and the Environment: 2.39%
- Multisector Science Support: 2.44%
- Energy and the Environment: 2.39%
- Other Innovation Support: 5.00%
- Industry R&D Tax Measures: 19.44%
- Other Govt R&D: 7.41%
- DSTO: 4.94%
- CSIRO: 8.76%

Source: Budget 2013-2014 Industry and Innovation tables
Trends in Government Investment in R&D% 2004–14

(source: 2013–14 Budget tables)
National Competitive Grants Program

**Discovery Projects**

- Laureate Fellowships
- Future Fellowships
- DECRA
- Other Fellowships

**Linkage Projects**

- Centres of Excellence
- Co-Funded & SRI
- LIEF

ITRP

Area of box represents $ awarded over the period 2008-2013. N.b. ITRP & DECRA running for less than five years.
## New measures

<table>
<thead>
<tr>
<th>Program</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future Fellowships</td>
<td>ongoing</td>
</tr>
<tr>
<td>Support for Dementia</td>
<td>$26 million</td>
</tr>
<tr>
<td>Tropical Health and Medicine</td>
<td>$42 million</td>
</tr>
<tr>
<td>ARC Antarctic Gateway</td>
<td>$24 million</td>
</tr>
<tr>
<td><strong>MYEFO</strong></td>
<td></td>
</tr>
<tr>
<td>Juvenile Diabetes</td>
<td>$35 million</td>
</tr>
</tbody>
</table>
Budget 2014–15: ARC

Other measures

- 3.25% Efficiency Dividend
- Revised Indexation—now CPI
- Departmental savings measures
NCGP proposal lifecycle
Patterns of application and success across the sector
Success rate: Comparison of schemes

Success Rate in commencement year 2013

- Linkage - Infrastructure Equipment
- Linkage - Projects
- Discovery Indigenous
- Industrial Transformation Training
- Discovery - Projects
- ARC Future Fellowships
- Discovery Early Career Researcher
- Australian Laureate Fellowships

39%
Discovery Projects: Size of scheme and success rates

![Graph showing the number of proposals and success rates from 2008 to 2014.]
ARC NCGP funding by university (%) 2007–13

RUN
IRU
ATN
Unaligned
Go8
Engagement by university
Strength in Linkage and Discovery Schemes
Australian Research Grants Committee funding by university—1974

- Humanities & SS
- Biological Sciences
- Engineering & Applied Sciences
- Earth Sciences

[Graph showing funding amounts for various universities]
Australian Research Grants Committee 1974—% funding share compared with ARC NCGP 2013

[Diagram showing funding share comparison for various institutions and regions between 1974 and 2013, with red and blue bars representing each year.]

- U Sydney
- Monash
- U Adelaide
- UNSW
- U Melbourne
- U Queensland
- UWA
- ANU
- Flinders
- U Tas
- UNE
- La Trobe
- Macquarie
- Newcastle
- Victoria (others)
- James Cook
- NSW (others)
- Wollongong
- RMC
- WA (others)
- Murdoch
- Tas (others)
- QLD (others)
- Griffith
- SA (others)
- ACT (others)
Patterns of application and success in your own university
DP 13 Group of Eight

Discovery
Network = Go8

Additional feedback

Each symbol represents up to 2 observations.
Patterns of application and success by discipline/FoR
ARC NCGP funding by 2-Digit FoR (%) 2006–2013

- Mathematical Sciences
- Physical Sciences
- Chemical Sciences
- Earth Sciences
- Biological Sciences
- Information and Computing Sciences
- Agricultural and Veterinary Sciences
- Engineering
- Technology
- Medical and Health Sciences
- Built Environment and Design
- Education
- Economics
- Commerce, Management, Tourism and Services
- Studies in Human Society
- Psychology and Cognitive Sciences
- Law and Legal Studies
- Studies in Creative Arts and Writing
- Language, Communication and Culture
- History and Archaeology
- Philosophy and Religious Studies
ARC proposals received: 2-Digit FoR (%) 2006–2013
Total ARC funding by major scheme and selected HCA/SBE disciplines (2012-14)
Proportion of proposals received by 2-digit FoR code

[past 4 years Discovery Projects and 5 years Linkage Projects]
Number of proposals received and funded by 2-digit FoR code

[past 4 years Discovery Projects and 5 years Linkage Projects]
HISTORICAL STUDIES (2103) by 6-digit level FoR code (all schemes, regardless of primary classification code, years 2010/11-14)

Size of bubble indicates the total percentage of a 6-digit level code in all projects funded.
Total funding for Historical Studies (2010 to 2014)

By scheme

No funding awarded in Linkage Infrastructure, Equipment and Facilities (LIEF) scheme
Cultural Studies (2002) by 6-digit level FoR code (all schemes, regardless of primary classification code) (2010/11 to 2014)

Size of bubble indicates the total percentage of a 6-digit level code in all projects funded.
Number of proposals received and funded (on the basis of Primary 4-digit RFCD/FoR codes)

[Commencement years 2002 to 2014; all schemes; 2014 data not including Future Fellows and Laureate Fellows]
Funding ($) for projects with primary 4-digit FoR in Cultural Studies by scheme (2011 to 2014)

No projects funded in LIEF scheme
Percentage totals of 6-digit level codes for projects funded in all schemes

<table>
<thead>
<tr>
<th>FourD_txt</th>
<th>SixD_Txt</th>
<th>ClassCd</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURAL STUDIES</td>
<td>Aboriginal and Torres Strait Islander Cultural Studies</td>
<td>200201</td>
</tr>
<tr>
<td></td>
<td>Culture, Gender, Sexuality</td>
<td>200205</td>
</tr>
<tr>
<td></td>
<td>Cultural Theory</td>
<td>200204</td>
</tr>
<tr>
<td></td>
<td>Cultural Studies not elsewhere classified</td>
<td>200299</td>
</tr>
<tr>
<td></td>
<td>Screen and Media Culture</td>
<td>200212</td>
</tr>
<tr>
<td></td>
<td>Consumption and Everyday Life</td>
<td>200203</td>
</tr>
<tr>
<td></td>
<td>Globalisation and Culture</td>
<td>200206</td>
</tr>
<tr>
<td></td>
<td>Multicultural, Intercultural and Cross-cultural Studies</td>
<td>200209</td>
</tr>
<tr>
<td></td>
<td>Asian Cultural Studies</td>
<td>200202</td>
</tr>
<tr>
<td></td>
<td>Postcolonial Studies</td>
<td>200211</td>
</tr>
<tr>
<td></td>
<td>Migrant Cultural Studies</td>
<td>200208</td>
</tr>
<tr>
<td></td>
<td>Pacific Cultural Studies</td>
<td>200210</td>
</tr>
</tbody>
</table>
Percentage totals of 6-digit level code (2010/11–14) (DP and LP)

**DP**

- **Cultural Theory**
- **Consumption and...**
- **Cultural Studies not...**
- **Screen and Media...**
- **Globalisation and Culture**
- **Asian Cultural Studies**
- **Culture, Gender,...**
- **Multicultural,...**
- **Aboriginal and Torres...**
- **Postcolonial Studies**
- **Migrant Cultural Studies**

**LP**

- **Cultural Theory**
- **Consumption and...**
- **Cultural Studies not...**
- **Screen and Media Culture**
- **Globalisation and Culture**
- **Asian Cultural Studies**
- **Culture, Gender,...**
- **Multicultural,...**
- **Aboriginal and Torres...**
- **Postcolonial Studies**
- **Migrant Cultural Studies**
Cross-disciplinary collaboration
Percentage totals of non-primary FoR codes in projects (2010/11 to 2014) all schemes

<table>
<thead>
<tr>
<th>Pr.</th>
<th>Primary2dTxt</th>
<th>Agricultural and Veterinary Sciences</th>
<th>Biological Sciences</th>
<th>Built Environment and Design</th>
<th>Chemical Sciences</th>
<th>Commerce, Management, Tourism</th>
<th>Earth Sciences</th>
<th>Economics</th>
<th>Education</th>
<th>Engineering</th>
<th>Environmental Sciences</th>
<th>History and Archaeology</th>
<th>Information and Computing Sciences</th>
<th>Language, Communication and Cu.</th>
<th>Law and Legal Studies</th>
<th>Mathematical Sciences</th>
<th>Medical and Health Sciences</th>
<th>Philosophy and Religious Studies</th>
<th>Physical Sciences</th>
<th>Psychology and Cognitive Sciences</th>
<th>Studies in Creative Arts and Writing</th>
<th>Studies in Human Society</th>
<th>Technology</th>
</tr>
</thead>
</table>
FOR Network mapping..
[Fruchterman reingold]

HASS disciplines highlighted

Source data:
http://www.arc.gov.au/general/searchable_data.htm
FOR Network mapping..
[Fruchterman reingold]

HASS - ZOOM
Number and proportion of single and cross-discipline projects (2010/11 to 2014)

Cross-discipline projects are those where the applicant indicated that the research content was distributed over at least two 2-digit FoR codes, with no more than 70 per cent in any one of those codes. Single-disciplinary projects are those where the applicant indicated that more than 70 per cent of the research content in the proposal lay within a single 2-digit RFCD code.

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Primary Code Text</th>
<th>Cross</th>
<th>Single</th>
<th>% Cross</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discovery Projects</td>
<td>CURATORIAL ...</td>
<td>4</td>
<td>2</td>
<td>66.7</td>
</tr>
<tr>
<td></td>
<td>HISTORICAL STUDIES</td>
<td>16</td>
<td>69</td>
<td>18.8</td>
</tr>
<tr>
<td></td>
<td>HISTORY AND PHIL...</td>
<td>5</td>
<td>14</td>
<td>26.3</td>
</tr>
<tr>
<td>Future Fellowship</td>
<td>HISTORICAL STUDIES</td>
<td>6</td>
<td>19</td>
<td>24.0</td>
</tr>
<tr>
<td></td>
<td>HISTORY AND PHIL...</td>
<td>2</td>
<td>5</td>
<td>28.6</td>
</tr>
<tr>
<td>Linkage Projects</td>
<td>CURATORIAL ...</td>
<td>4</td>
<td>1</td>
<td>80.0</td>
</tr>
<tr>
<td></td>
<td>HISTORICAL STUDIES</td>
<td>8</td>
<td>16</td>
<td>33.3</td>
</tr>
<tr>
<td></td>
<td>HISTORY AND PHIL...</td>
<td>0</td>
<td>1</td>
<td>0.0</td>
</tr>
</tbody>
</table>
Non-primary 4-digit FoR components in projects with primary FoR in Historical Studies (2010/11 to 2014), all schemes

Number shown is for percentage totals of the FoR
Academic workforce issues
National Competitive Grants Program

ARC Research Opportunity and Performance Evidence (ROPE)

- The ARC is committed to ensuring all eligible researchers have fair access to competitive funding through the National Competitive Grants Program.
- The ARC considers that Research Opportunity comprises two separate elements:
  - Career experiences (relative to opportunity)
  - Career interruptions.
Success rate (%) of HCA/SBE CIs in Discovery by career age (yrs post PhD) 2002–14

(Note - fellow applicants have been included as funded on all funded projects)
Success rate (%) of HCA/SBE CIs in Discovery, by title and type of university (2002–14)

(Note - fellow applicants have been included as funded on all funded projects)
First-time awardees by scheme 2008–14
Participation and success of CIs in DP13 and DP14 by gender and career age
Number of ECR - MCR researchers and success rate in DP (2011 to 2014)

ECR – PhD received within 5 years
MCR – PhD received within 5 to 15 years
Number of Chief Investigators and success rate in DP, by gender

<table>
<thead>
<tr>
<th>Year</th>
<th>Male %</th>
<th>Female applied</th>
<th>Male applied</th>
<th>Female %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td>40%</td>
<td></td>
</tr>
</tbody>
</table>
Trends in DECRA
Discovery Early Career Researcher Award (DECRA)

- Support and advance promising early career researchers, and enable research and research training in high quality and supportive environments.
- Highly competitive: 200 per round.
- Eligibility: up to 5 years post-PhD (note ROPE).
- Selection criteria (more detail on each in Funding Rules):
  - Project Quality and Innovation (40%)
  - DECRA Candidate (35%)
  - Research Environment (15%)
  - Feasibility and Benefit (10%).
- Funding for up to three years.
- DECRA salary plus up to $40 000 per year project costs.
A DECRA15 Candidate must at the closing time of submission of proposals:

- have been awarded a PhD on or after 1 March 2009
- or commensurate with a period of significant career interruption have been awarded a PhD awarded on or after 1 March 2005
- The following types of interruption will be considered:
  - carer’s responsibility
  - international relocation for international post-doctoral studies (no more than 3 months per relocation)
  - illness
  - maternity or parental leave
  - unemployment or non-research employment.
Size of scheme and success rates (2)

**DECRA 2012-2014: Success Rates**

- **2012**: 1882 proposals, 277 successful (12.8% success rate)
- **2013**: 1081 proposals, 200 successful (15.6% success rate)
- **2014**: 1268 proposals, 200 successful (13.62% success rate)
### Time since PhD—DE14

<table>
<thead>
<tr>
<th>Years since award of PhD</th>
<th>No. of considered proposals</th>
<th>% of considered proposals</th>
<th>No. of approved proposals</th>
<th>% of approved proposals</th>
<th>% success</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-1</td>
<td>169</td>
<td>11.5%</td>
<td>19</td>
<td>9.5%</td>
<td>11.2%</td>
</tr>
<tr>
<td>1-2</td>
<td>190</td>
<td>12.9%</td>
<td>17</td>
<td>8.5%</td>
<td>8.9%</td>
</tr>
<tr>
<td>2-3</td>
<td>236</td>
<td>16.1%</td>
<td>35</td>
<td>17.5%</td>
<td>14.8%</td>
</tr>
<tr>
<td>3-4</td>
<td>336</td>
<td>22.9%</td>
<td>51</td>
<td>25.5%</td>
<td>15.2%</td>
</tr>
<tr>
<td>4-5</td>
<td>394</td>
<td>26.8%</td>
<td>57</td>
<td>28.5%</td>
<td>14.5%</td>
</tr>
<tr>
<td>5-6</td>
<td>92</td>
<td>6.3%</td>
<td>15</td>
<td>7.5%</td>
<td>16.3%</td>
</tr>
<tr>
<td>6-7</td>
<td>29</td>
<td>2.0%</td>
<td>2</td>
<td>1.0%</td>
<td>6.9%</td>
</tr>
<tr>
<td>7-8</td>
<td>22</td>
<td>1.5%</td>
<td>4</td>
<td>2.0%</td>
<td>18.2%</td>
</tr>
<tr>
<td>Total</td>
<td>1468</td>
<td></td>
<td>200</td>
<td></td>
<td>13.6%</td>
</tr>
</tbody>
</table>

• Success rate is greater for people with 3-5 years experience.
• We have also looked at career interruption data:
  - Overall success rate for people with career interruptions is no different to those without career interruptions
  - Trend in success rate follows same pattern as overall (i.e. a greater success rate with equivalent of 3-5 years experience).
## Gender of candidates—DE14

<table>
<thead>
<tr>
<th>Panel</th>
<th>Number of female candidates</th>
<th>Number of approved female candidates</th>
<th>Female success rate</th>
<th>Number of male candidates</th>
<th>Number of approved male candidates</th>
<th>Male success rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>BSB</td>
<td>157</td>
<td>21</td>
<td>13.4%</td>
<td>207</td>
<td>29</td>
<td>14.0%</td>
</tr>
<tr>
<td>EMI</td>
<td>63</td>
<td>8</td>
<td>12.7%</td>
<td>338</td>
<td>47</td>
<td>13.9%</td>
</tr>
<tr>
<td>HCA</td>
<td>124</td>
<td>18</td>
<td>14.5%</td>
<td>93</td>
<td>12</td>
<td>12.9%</td>
</tr>
<tr>
<td>PCE</td>
<td>70</td>
<td>10</td>
<td>14.3%</td>
<td>166</td>
<td>22</td>
<td>13.3%</td>
</tr>
<tr>
<td>SBE</td>
<td>139</td>
<td>19</td>
<td>13.7%</td>
<td>105</td>
<td>14</td>
<td>13.3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>553</strong></td>
<td><strong>76</strong></td>
<td><strong>13.7%</strong></td>
<td><strong>909</strong></td>
<td><strong>124</strong></td>
<td><strong>13.6%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Citizenship/residency status</th>
<th>Proposals considered</th>
<th>% of proposals considered</th>
<th>Proposals approved</th>
<th>Success rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Nationals</td>
<td>511</td>
<td>34.8%</td>
<td>72</td>
<td>14.1%</td>
</tr>
<tr>
<td>Resident Australians</td>
<td>901</td>
<td>61.4%</td>
<td>120</td>
<td>13.3%</td>
</tr>
<tr>
<td>Returning Australians</td>
<td>56</td>
<td>3.8%</td>
<td>8</td>
<td>14.3%</td>
</tr>
<tr>
<td>Total</td>
<td>1468</td>
<td>100%</td>
<td>200</td>
<td>13.6%</td>
</tr>
</tbody>
</table>
Trends in Linkage
The money!

Average ARC funding, PO contribution and number of PO on each LP project

The Partner Organisation must make a significant contribution in cash and/or in kind, to the project that is equal to, or greater than, the ARC funding.
Some Linkage stats: funding and success rates

Linkage Projects Funding and Success rate

- Total funding
- Success Rate

Since 2005 there have been nearly 2200 instances of collaboration with Australian private companies, as partner organisations on linkage grants.
Some Linkage stats: Partner orgs

Linkage Projects - number of Australian private companies as Partner Orgs 2005 - 2013

Average 28% of projects

Linkage Projects - % Private companies and Government as Partner Orgs 2005-2013

The Linkage Projects scheme is a driver of collaboration between higher education researchers and other parts of the national innovation system.
Linkage - Instances of Collaboration by Org Type
Linkage, HCA and national research infrastructure
Number of projects (all schemes) involving GLAM, by 2-digit FoR code (2008 to 2014)

- Biological Sciences
- History and Archaeology
- Environmental Sciences
- Studies in Creative Arts and Writing
- Earth Sciences
- Language, Communication and...
- Studies in Human Society
- Chemical Sciences
- Physical Sciences
- Philosophy and Religious Studies
- Law and Legal Studies
- Information and Computing Sciences
- Technology
- Built Environment and Design
- Agricultural and Veterinary Sciences
- Engineering
- Commerce, Management, Tourism...
- Psychology and Cognitive Sciences

Number of projects ranges from 0 to 60.
ARC-funded projects involving GLAM organisations—major areas of research
Collaboration between universities (green) and GLAM organisations (blue), by location
Discussion/questions