ERA Initiative

An Overview
Roadshow Events

Canberra  13 June 2008  University of Canberra
Melbourne  16 June 2008  University of Melbourne
Brisbane  17 June 2008  University of Queensland
Sydney  20 June 2008  University of Sydney
Adelaide  24 June 2008  University of Adelaide
Perth  25 June 2008  University of Western Aust.
Objectives of ERA

1. identify excellence across the full spectrum of research activity;
2. compare Australia’s university research effort against international benchmarks;
3. create incentives to improve the quality of research;
4. identify emerging research areas and opportunities for further development.
ERA Consultation Paper

• **Outlines**
  – the framework for ERA;
  – proposed timetable; and
  – seeks views from the sector/stakeholders on specific issues.

• **Submissions**
  – Closing date: Monday 30 June 2008
Proposed Approach

- Evaluation of all research outputs

- Research disciplines will be evaluated within an institution based on Fields of Research (FoR)

- Indicators and proxies developed for ERA will be appropriate to each discipline

- Eight discipline clusters
ANZSRC

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
DIVISION 01 MATHEMATICAL SCIENCES

This division covers mathematics, statistics, and mathematical aspects of the physical sciences.

This division contains six groups:

  0101  Pure Mathematics
  0102  Applied Mathematics
  0103  Numerical and Computational Mathematics
  0104  Statistics
  0105  Mathematical Physics
  0199  Other Mathematical Sciences
Discipline Clusters

1. Physical, Chemical and Earth Sciences (PCE);
2. Humanities and Creative Arts (HCA);
3. Engineering and Environmental Sciences (EE);
4. Social, Behavioural and Economic Sciences (SBE);
5. Mathematics, Information and Communication Sciences (MIC);
6. Biological Sciences and Biotechnology (BSB);
7. Biomedical and Clinical Research (BCR); and
8. Public and Allied Health and Health Services (PAHHS).
Indicators

- Indicators Development Group
  - Australian and international experts
  - to consider, test and recommend appropriate discipline-specific indicators
  - the IDG is supported by an analytical testing team
  - analytical testing of all indicators to identify anomalies within each discipline
Indicators - Publications

• Research Publications data
  – Books, book chapters, journal articles and refereed conference publications as a minimum.

• Publication Reference Period(s)
  – six years ending on 31 December two years prior to the evaluation year.

• Attribution – options:
  – Approach 1 – staff affiliation at census date
  – Approach 2 – institution affiliation based on HERDC.

• Data Supplier
  – ARC will test the use of multiple citation data suppliers to ensure broad coverage.
Indicators - Publications

• Outlet Rankings
  – a range of research output types profiled across four tiers.
  – includes journals and where relevant publishers, conferences, and other outlet types.

• Bibliometrics (where relevant)
  – citations per publication against international benchmarks for each discipline.
  – centile analysis.

• Quality indicators relevant to discipline
Indicators

- **Research Income**
  - Categories 1-5 for each year of the reference period.

- **Research Training**
  - HDR student load and completions at the two-digit FoR for each year of the reference period.

**Are all income categories necessary or appropriate?**
Indicators of Success in Applied Research and Translation of Research Outcomes

- Indicators for practitioner-focussed outlets
- Patents produced (by type)
- Plant breeders’ rights
- Licence income and other commercialisation revenues
- Research income awarded in collaboration with end users
- Exhibitions and/or performances with a research component and international recognition
- Other discipline-specific indicators as identified by the Indicators Development Group
Evaluation Process

- ARC will be responsible for bibliometric and other analyses employed.

- Bibliometric methodology will be transparent.

- RACs guided by Evaluation Guidelines and will develop discipline-specific national and international benchmarks.

- Evaluation of interdisciplinary research may require a RAC to co-opt relevant expertise.
Example of Breaking Down Ranked Outlets

<table>
<thead>
<tr>
<th>Tier</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>A*</td>
<td>82</td>
<td>23%</td>
</tr>
<tr>
<td>A</td>
<td>105</td>
<td>30%</td>
</tr>
<tr>
<td>B</td>
<td>104</td>
<td>30%</td>
</tr>
<tr>
<td>C</td>
<td>46</td>
<td>13%</td>
</tr>
<tr>
<td>Not ranked</td>
<td>13</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>350</td>
<td>100%</td>
</tr>
</tbody>
</table>
# Citation Analysis

Citations per publication (cpp)

<table>
<thead>
<tr>
<th>Total Publications</th>
<th>Sum of Cites</th>
<th>Institutional cpp</th>
<th>World cpp Average</th>
<th>Australian cpp Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>337</td>
<td>2,871</td>
<td>8.52</td>
<td>5.08</td>
<td>4.53</td>
</tr>
</tbody>
</table>

Relative citations against world and Australian average

- 1.67
- 1.88

## Centile analysis

<table>
<thead>
<tr>
<th></th>
<th>&lt;1%</th>
<th>2-5%</th>
<th>6-10%</th>
<th>11-20%</th>
<th>21-50%</th>
<th>&gt;50%</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number</td>
<td>13</td>
<td>35</td>
<td>25</td>
<td>38</td>
<td>111</td>
<td>115</td>
<td>337</td>
</tr>
<tr>
<td>Percentage</td>
<td>4%</td>
<td>11%</td>
<td>7%</td>
<td>11%</td>
<td>33%</td>
<td>34%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Ranked Journal Analysis

The ARC is now seeking feedback from the research community to assist with the development of research journal rankings.

www.arc.gov.au/era/indicators.htm
Submissions/Responses

- The ARC is inviting submissions in response to the ERA Consultation Paper.

- Closing date **COB Monday 30 June 2008**.

- Pro-forma for submissions/responses available from ARC website.
What reporting might look like
## ERA Consultation Plan

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
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<tbody>
<tr>
<td>June 2008</td>
<td>ERA Consultation Paper released</td>
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<tr>
<td></td>
<td>Draft ranked outlets list released to sector for comment</td>
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<tr>
<td>July 2008</td>
<td>Indicators development group commences</td>
</tr>
<tr>
<td></td>
<td>Cluster One consultation begins</td>
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<tr>
<td></td>
<td>Cluster Two consultation begins</td>
</tr>
<tr>
<td>August 2008</td>
<td>Draft ERA Submission Guidelines released to the sector for comment</td>
</tr>
<tr>
<td>September 2008</td>
<td>Cluster One consultation ends</td>
</tr>
<tr>
<td>October 2008</td>
<td>Cluster Two consultation ends</td>
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