Objectives of ERA

1. establish an evaluation framework that gives government, industry, business and the wider community assurance of the excellence of research conducted in Australia’s institutions;

2. provide a national stocktake of discipline-level areas of research strength and areas where there is opportunity for development in Australia’s higher education institutions;

3. identify excellence across the full spectrum of research performance;

4. identify emerging research areas and opportunities for further development; and

5. allow for comparisons of Australia’s research nationally and internationally for all discipline areas.
# ERA Clusters

<table>
<thead>
<tr>
<th>Cluster 1</th>
<th>Physical, Chemical and Earth Sciences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cluster 2</td>
<td>Humanities and Creative Arts</td>
</tr>
<tr>
<td>Cluster 3</td>
<td>Engineering and Environmental Sciences</td>
</tr>
<tr>
<td>Cluster 4</td>
<td>Social, Behavioural and Economic Sciences</td>
</tr>
<tr>
<td>Cluster 5</td>
<td>Mathematics, Information and Computing Sciences</td>
</tr>
<tr>
<td>Cluster 6</td>
<td>Biological and Biotechnological Sciences</td>
</tr>
<tr>
<td>Cluster 7</td>
<td>Biomedical and Clinical Health Research</td>
</tr>
<tr>
<td>Cluster 8</td>
<td>Public and Allied Health Sciences</td>
</tr>
</tbody>
</table>
Research Codes

- RFCDS codes revised by Australian Bureau of Statistics
- Now ANZSRC codes – both grants and ERA

Two digit codes
- Eg., 21 history and archaeology

Four digit codes
- eg., 2103 Historical studies

Six digit codes
- Eg., 210302 Asian History
# The Discipline Matrix

<table>
<thead>
<tr>
<th>Volume and Activity Analysis</th>
<th>Ranked outlets</th>
<th>Citation Analysis</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double researchers profiled by Academic Level</td>
<td>Research Realisation outputs by type</td>
<td>Proportion of total publication activity</td>
<td>Proportion of indexed journal articles with international co-authors</td>
</tr>
<tr>
<td><strong>02 Physical Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0201 Astronomical and Space Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0202 Atomic, Molecular, Nuclear, Particle and Plasma Physics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0203 Classical Physics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0204 Condensed Matter Physics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0205 Optical Physics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0206 Quantum Physics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0299 Other Physical Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>03 Chemical Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0301 Analytical Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0302 Inorganic Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0303 Macromolecular and Materials Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0304 Medicinal and Biomolecular Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0305 Organic Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0306 Physical Chemistry (incl. Structural)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0307 Theoretical and Computational Chemistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0399 Other Chemical Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td><strong>04 Earth Sciences</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0401 Atmospheric Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0402 Geochimistry</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0403 Geology</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0404 Geophysics</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0405 Oceanography</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0406 Physical Geography and Environmental Geoscience</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>0499 Other Earth Sciences</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>
ERA timeframe

• Trials in 2009 for two Clusters only
  – PCE submissions opened June and closed July 2009
  – Outcomes in November 2009
  – HCA submissions open and closes August 2009
  – Outcomes in December 2009

• Full ERA process expected in 2010 (will include PCE and HCA again)
2009 - Latest focus points for ERA

- Workshops on other six clusters and indigenous research.
- Development of esteem indicators
- Ranked refereed conference publications (tiered)
- Finalising the journal rankings lists for other Clusters – expert consultation
- Research Evaluation Committees for PCE and HCA being established
- Draft matrices
Overview of ERA Evaluation

Key Documents
- Submission close
- Validation
- Pool of items for peer review

Submission Guidelines
- Sort by unit of evaluation 4 & 2 - digit – volume threshold
- Agreed application of evaluation methodology

Indicator Benchmark Methodology
- Assignment to Research Evaluation Committee and Peer Reviewers

Evaluation Guidelines
- REC and Peer Reviewers
  - Evaluation
  - Prepare for meeting – (REC only)

Evaluation meeting
Finalise rating(s)/outcomes

CEO report to Minister on trial

Report to the public on national outcomes and separate report to institutions on results

CEO report to Minister on trial

CEO report
Evaluation

Outputs

Ranked Journals

Citation Analysis or Peer Review

Supporting Information

Volume and Activity – outputs and people

HERDC Research Income

Applied Indicators – Patents and Commercialisation income

2- digit background statement
The ERA “Dashboard”

• Quantitative profiles presented as proxies of quality and for context.
• Examples of the quantitative profiles are in the Evaluation Guidelines
• Where relevant – Peer Review – access to outputs via repositories or provided by institution to the ARC for the reviewer.
Ranked Journals

- Only **one** of a number of indicators on the “Dashboard”
- It assists with the assignment of a research output to the appropriate discipline(s) and cluster
- Required for development of discipline-specific benchmarks for citation analysis
- **Note discipline-specific practices** CMP/Nursing
Ranked Journals for 2010

• What is happening with the journal ranking process for 2010?
• What do the next steps involve?
• Who can be involved?
• lauren.johnston@arc.gov.au
• How much work is involved?
• What about international reviewers?
Peer Review

- Peer review is identified as an indicator for HCA
- Peer review is one “indicator” on the Dashboard
- Institutions identify up to 20% of outputs for the peer review pool
- REC Members will undertake expert review of the Dashboard **including** peer review of a sample of research outputs.
- Peer Reviewers **only** evaluate research quality based on sample of outputs and their reports go back to REC Members
Creative Arts issues

- Considerations of research component of research outputs – the statement
- Selecting a variety of outputs for the 20%
- Trial – Banded Publishers – Curated Events
- Evaluation – peer review of creative works, and research income
Esteem

- In 2008 we received advice on a number of proposed esteem measures for PCE and HCA
- In 2009 the ARC received advice on esteem measures for the other six clusters
- The Minister determined that esteem measures would not be in for the 2009 trial but will be included for the full ERA process
- The ARC has undertaken further work and a consultation paper will be released to the sector shortly
Interdisciplinary and Multidisciplinary Research

• ERA is a discipline-based evaluation
• Re-assignment of Two-digit and multidisciplinary outputs
• Institutional tools (not part of evaluation)
• The ‘big bang’
Field of Research Re-Assignment

<table>
<thead>
<tr>
<th>Division 20 Language, Communication and Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001 Communication and Media Studies</td>
</tr>
<tr>
<td>2002 Cultural Studies</td>
</tr>
<tr>
<td>2003 Language Studies</td>
</tr>
<tr>
<td>2004 Linguistics</td>
</tr>
<tr>
<td>2005 Literary Studies</td>
</tr>
<tr>
<td>2099 Other Language, Communication and Culture</td>
</tr>
</tbody>
</table>

- Division 20: 63
- 2001: 34
- 2002: 47
- 2003: 16
- 2004: 83
- 2005: 46
- 2099: 38
Discipline Profile and its use – 4-digit

![Discipline FoR 2101]

- 2101 - Archaeology
- 0607 - Plant Biology
- 1901 - Art History
- 0305 - Organic Chemistry
Institutional Tools

- Institutions may tag research outputs with two institutional codes and two research theme codes
- This will assist in recompiling data
- The tagging will not be used for ERA evaluation purposes
ARC – outcomes of trial

- institutional reports
- a national outcomes report
- After trial for PCE and HCA – review of process and outcomes
- Lessons learned will inform the full evaluation
Further information

• www.arc.gov.au

• www.arc.gov.au/era

• Email: era@arc.gov.au