EVALUATING RESEARCH EXCELLENCE

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Overview

• Brief introduction to the ARC
• What’s new in 2009
• Evaluating Research Excellence
  — *ERA*
  — *NCGP*
• Current challenges
  — peer review-best practice
  — ERA development
  — research capacity
The ARC

• Statutory Agency established 2001
• Fund direct costs to Universities and partners
• Projects, fellows and infrastructure ($<5 M)
• All disciplines except clinical medicine & dentistry (with the exception of the new Future Fellowships)
Strategic objectives

• To support excellence in research
• To build Australia’s research capacity
• To provide informed high quality policy advice to government
• To enhance research outcomes through effective evaluation
• To raise the profile of Australia’s research effort and be an effective advocate for its benefits
2009

- Budget measures
  - Continued funding for ERA ($35.8m)
  - New Super Science Fellowships ($27.2m)
  - Funding to develop bionic eye ($50m)
  - Continued funding for NICTA ($92.75m)
- Excellence in Research for Australia (ERA) initiative
- Future Fellows Announcement
- New Centres of Excellence round
- Review of Assessment & Working Smarter Agenda
Objectives of ERA

- Comprehensive Evaluation framework
- Stocktake at discipline-level of areas of research strength
- Identify excellence across the full spectrum of research performance;
- Identify emerging research areas and opportunities for further development;
- Allow for comparison of Australia’s research nationally and internationally for all discipline areas.
# Clusters

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Category</th>
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<tbody>
<tr>
<td>Cluster 1</td>
<td>Physical, Chemical &amp; Earth Sciences</td>
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<tr>
<td>Cluster 2</td>
<td>Humanities and Creative Arts</td>
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<tr>
<td>Cluster 3</td>
<td>Engineering and Environmental Sciences</td>
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<td>Cluster 4</td>
<td>Social, Behavioural and Economic Sciences</td>
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<td>Cluster 5</td>
<td>Mathematics, Information and Communication Sciences</td>
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<td>Cluster 6</td>
<td>Biological Sciences and Biotechnology</td>
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<td>Cluster 7</td>
<td>Biomedical and Clinical Research</td>
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<td>Cluster 8</td>
<td>Public and Allied Health, and Health Sciences</td>
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The ERA Unit of Evaluation

• The **baseline** - the Discipline in an institution = Four-digit Field of Research Code (ANZSRC) eg., 0301 Analytical Chemistry

• The **higher perspective** – the division in an institution = Two-digit Field of Research Code (ANZSRC) eg., 03 Chemistry

• The ERA Unit is **not** the institution or the individual researcher

• UK – Unit of Evaluation = dept in institution, RAE, REF

• NZ – Unit or Evaluation = the individual researcher, PBRF
<table>
<thead>
<tr>
<th>Volume and Activity Analysis</th>
<th>Eligible researchers profile by Level</th>
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<tr>
<td></td>
<td>Research outputs by type</td>
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<td>Proportion of total research outputs activity</td>
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<td>Ranked Outlets</td>
<td>Journals</td>
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<td>Conferences</td>
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<td>Citation Analysis</td>
<td>Relative Citation Impact</td>
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<td>Citation analysis</td>
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<td>Distribution of papers against relative citation rates bands</td>
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<tr>
<td>Research Income</td>
<td>Category 1</td>
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<td>Category 2</td>
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<td></td>
<td>Category 3 (incl sub categories)</td>
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<td>Category 4</td>
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<tr>
<td>Estem</td>
<td>Membership of editorial boards of A* and A ranked journals</td>
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<td></td>
<td>Editor of Prestigious Works of Reference</td>
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<td></td>
<td>Membership of Learned Academies (national)</td>
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<td></td>
<td>Nationally competitive research fellowships (Category 1)</td>
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<td>Australia Council Fellowship/Grant</td>
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<td>Technical or General Chair of A ranked Conference</td>
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<td>Membership of Statutory committees</td>
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<td>Applied Measures</td>
<td>Patents</td>
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<td>Plant Breeders Rights</td>
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<td>Research commercialisation income</td>
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<td>Nationally endorsed Guidelines or Standards</td>
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<td>Registered Designs</td>
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<td>Contribution to Internationally endorsed Standards</td>
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<td>Peer Review</td>
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ERA Process Overview

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<th>Metrics Profile 1</th>
<th>Metrics Profile 2</th>
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<tbody>
<tr>
<td>Metrics Profile 3</td>
<td>Metrics Profile 4</td>
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<tr>
<td>Metrics Profile 5</td>
<td>Metrics Profile 6</td>
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</tbody>
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Note - There are no weightings!

- Peer Review
- Research Evaluation Committee
- Final report
Areas under development

• Creative arts outputs and esteem indicators
  – Consultation paper
  – progress on creative arts
• Applied research indicators
  – Link output to quantitative indicator(s) and indicator principles
• Considering effects on interdisciplinary areas and areas with low volumes
• Huge practical effort behind the scenes
2009 PCE Trial - Submissions received

Breakdown of 29,915 Journal Articles Submitted

- Indexed by Scopus, n=28,246
- Not indexed by Scopus, n=1,590
- Invalid EIDs submitted, n=79
Interdisciplinary Research

• ERA is a discipline-based evaluation but..
• Clusters are multidisciplinary
• ERA will establish discipline profiles and extent of interdisciplinary overlap or spread
• Institutional tools (reporting codes)
• National tools (themes/clusters)
Discipline Profile and its use – 4-digit

![Discipline FoR 2101 Diagram](chart.png)
Prospective evaluation of excellence-
National Competitive Grants Program

- Best practice peer review (2009)
- Practical (physically and financially)
- Impact of track record...
- Identifying potential?
- Role in building capacity - especially in core disciplines
Review of Assessment Processes

• The current structure incorporates:
  - College of Experts (100+)
  - detailed (Ozreaders) (~20)
  - specialised assessors (Intreaders) (<5)

• Issues
  - weighting of different levels
  - review fatigue and response
  - expertise matching
Elements of a better system

- Ease the workload of assessors
- Assignment of proposals to the most appropriate assessors
- Increase the importance of specialised reviewers
- Increase the rate of return of assessments
- Support multidisciplinary applications and emerging areas or areas of risk
- Greater feedback for unsuccessful applicants
New structure:

Level 3

Interdisciplinary Selection Advisory Committees
composed of ‘Interdisciplinary Leaders’ who are Chairs and co-Chairs of PRCs

2-digit FOR

Level 2

Panel Review Committee 1
Panel Review Committee 2
Panel Review Committee 3
Panel Review Committee 4
Panel Review Committee N

~

4-digit FOR

Level 1

Peer Reviewers

6-digit FOR

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Assessment

- Are the current selection criteria appropriate?
  - Is the weighting right? Is it clear? Does it discourage ECRs and researchers who have experienced career-interruptions?
- Currently track record has significant weight
- Concept of “track record” flawed
- Need stronger links to outcomes of previous funding
- Teaching and research academics
**ROPE (working title)**

- **Research Opportunities**
  - Career breaks
  - Research only?

- **Performance Evidence**
  - Outcomes of previous funding
  - Publications
  - Other evidence/recognition
Process

- Internal Working Group
- External Working Group
- Formal consultation process
- Review of overseas practices
Outcomes

• Timing of any changes proposed will be subject to:
  - nature of feedback received
  - financial and IT constraints

• It will also be responsive to the needs of administering organisations.
Working Smarter project

- Review scheme calendar
- Review allowable expenditure
- Centres overlap
- Definition of medical and dental research
- Eligibility processes
- Post-award administration
Future Fellows- investment in excellence
Discipline Expertise vs Interdisciplinary studies

"I was also something of a curricular conservative, believing that people needed a firm grounding in a single discipline before they became involved in more eclectic, interdisciplinary work."

Jill Kerr Conway
Former President of Smith College
Summary

- ERA and evaluating research excellence making “excellent” progress
- Review of peer review well underway
- Background work on research capacity especially in core or enabling disciplines on-going
- ARC looking forward to working smarter with researchers and their institutions