University of Technology, Sydney
ERA Strategy Meeting and Forum
21 July 2011

Professor Margaret Sheil
CEO, Australian Research Council
Government Investment in R&D 2011-12

- Business & Innovation: 24%
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- ARC: 9%
- NHMRC: 8%
- CRCs: 2%
- Universities: 21%
- Other Health: 6%
- Other: 11%
- Rural: 2%
- Other Science: 4%
- Energy and the Environment: 5%
- Investigator Driven: 4.5%

Web: arc.gov.au | Email: info@arc.gov.au
What problem were we trying to solve?

- Demonstrate quality/value of investment in university research to government
- Raise the quality of Australian research effort
Australian academic publishing practices

Year that publications measure was introduced

Quartile 1 highest impact
Quartile 4 below median impact

Source: Butler 2002
Excellence in Research for Australia

- 2007 New Government elected with a commitment to replaces RQF with a metrics based approach
- 2008 ARC given responsibility for quality framework
- 2008 Develop policy and case for funding and vice versa
- 2009 ERA Trial in physical sciences and humanities and creative arts
- 2010 ERA Full Evaluation
- 2011 Refinements to framework
- 2012 Next ERA round
Scale of ERA 2010

- All 41 eligible institutions submitted data
- Over 330,000 research outputs
- 55,000 researchers represented
- 2,435 units of evaluation assessed at 2 and 4-digit level
- 149 Research Evaluation Committee (REC) members
- 500+ Peer Reviewers

All aggregated data in the *ERA 2010 National Report*. 
ERA Process Overview

- Volume and Activity
- Journal Quality
- Citation analysis or peer review
- Research Income
- Applied Measures
- Esteem

Please note – no weightings

Research Evaluation Committee
Strengths in Australian universities

- Astronomical and Space Sciences
- Optical Physics
- Quantum Physics
- Macromolecular & Materials Chemistry
- Physical & Structural Chemistry
- Geology
- Ecology
- Evolutionary Biology
- Plant Biology
- Zoology

- Electrical and Electronic Engineering
- Historical Studies
- Cardiovascular Medicine and Haematology
- Human Movement and Sports Science
- Immunology
- Oncology and Carcinogenesis
- Pharmacology and Pharmaceutical Sciences
- Medical Physiology
Gaps

- Agriculture, Land and Farm Management
- Automotive Engineering
- Maritime Engineering
- Engineering Design
- Complementary and Alternative Medicine

Pockets

- Classical Physics
- Aerospace Engineering
- Transportation and Freight

Strong Applied Research

- Electrical and Electronic Engineering
- Crop and Pasture Protection
- Resources Engineering
- Materials Engineering
- Extractive Metallurgy
- Nursing
ERA 2010 myths

Averages and Rankings

Sciences v. Social Sciences & Humanities

ERA does not evaluate individuals

ERA does not evaluate individual outputs

Ranked Journals did not drive ERA ratings

ERA evaluations utilised metrics and peer review moderated by expert judgement
ERA 2010 Rating by Cluster - at, above, or well above world standard (i.e. 3s, 4s, & 5s)

Public and Allied Health Sciences
Mathematical, Information and Computing Sciences
Biomedical and Clinical Research
Engineering and Environmental Sciences
Biotechnology and Biological Sciences
Physical Chemical and Earth Sciences
Social, Behavioural and Economic Sciences
Humanities and Creative Arts

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Changes for 2012

• Changes to the ranked journals and conferences
• Interdisciplinary Research
• Raising the Threshold
• Capturing Applied Research
• Eligibility for fractional staff
Unintended consequences - journal rankings

- Journals only easily accessible information
- Rapid response time
- Codified existing behaviour/practice
- Simplified application
## The refined journal indicator

<table>
<thead>
<tr>
<th>University of Y</th>
<th>FoR0201</th>
<th>Astronomical and Space Sciences</th>
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<tr>
<td><strong>Journal Title</strong></td>
<td><strong>Papers</strong></td>
<td><strong>Contribution</strong></td>
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<tr>
<td>1</td>
<td>Advances in Space Research</td>
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<td>2</td>
<td>Applied Physics Letters</td>
<td>90</td>
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<tr>
<td>3</td>
<td>Nature</td>
<td>72</td>
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<tr>
<td>4</td>
<td>Astronomy and Astrophysics: a European journal</td>
<td>69</td>
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<tr>
<td>5</td>
<td>Geophysical Research Letters</td>
<td>51</td>
</tr>
<tr>
<td>6</td>
<td>Mathematics and Computers in Simulation</td>
<td>27</td>
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</tbody>
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*Please note that this is not based on any university's submission to ERA 2010*
ERA 2012 – still to do

• Expanding peer reviewer pool
• Making peer review more robust (selection of outputs, reviewers)
• Scrutiny of processes and outcomes
• Draft Submission Guidelines to be issued to the sector in July 2011 for comment
• System development and testing
Research Block Funding

- Research Income
- Research Student Completions and Load
- Publications
- ERA
- APAs
- IPRS
- Research Training Scheme
- Joint Research Engagement
- Sustainable Research Excellence
- CTS
ERA Outcomes

• Changes in research culture (focus on excellence)
• Sustainable Research Excellence (from 2012)
• Compacts and Institutional Planning
• Tertiary Education Quality and Standards Agency ??
• Research Training Scheme (from 2013)
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