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Executive Director, Biological Sciences and Biotechnology, Australian Research Council

Linkage Projects, Industrial Transformation Research Program, Centres of Excellence

6 November 2014; University of Adelaide
Topics for Today

• Overview of the ARC
• Grants lifecycle and stats
• Insights into the grants process
• and funding schemes:
  – LP
  – ITRP
  – Centres of Excellence
Commonwealth Investment in R&D 2014-15

- Industry R&D Tax Measures 26.44%
- ARC 9.53%
- NHMRC 10.12%
- Australian Government R&D 7.50%
- CSIRO 8.11%
- DSTO 4.44%
- Energy and the Environment 1.95%
- Rural 3.30%
- Other Health 0.63%
- CRCs 1.63%
- Higher Education R&D 0.47%
- Block Funding 21.19%
- Business Innovation 3.30%
- Business R&D 0.02%

Source: Budget 2014-2015 Industry and Innovation tables
ARC NCGP Programs & Schemes

Discovery Program
- Discovery Projects
- Discovery Indigenous
- Discovery Early Career Researcher Award (DECRA)
- Future Fellowships
- Australian Laureate Fellowships

Linkage Program
- Linkage Projects
- Linkage Infrastructure, Equipment and Facilities
- Linkage Learned Academies Special Projects

Web: arc.gov.au  |  Email: Communications@arc.gov.au
Types of ARC Centres

- ARC Centres of Excellence
- Industrial Transformation Research Program
- Special Research Initiatives
- Co-funded Centres
ARC funding to University of Adelaide 2007-2013

The University of Adelaide
ARC funding by institute 2010 - 2014
NCGP Grants Lifecycle
The Grants Peer Review Process LP

- Biological Sciences, Biotechnology, Environmental, Medical and Health Sciences (BEM)
- Engineering and Technology (ET)
- Humanities and Creative Arts, Social, Behavioural and Economic Sciences (HSE)
- Physical, Mathematical and Information Sciences (PMI)
The **Linkage Projects** scheme objectives

- initiation and/or development of **long-term strategic research alliances** between higher education organisations and other organisations, including industry and end-users, in order to apply advanced knowledge to problems and/or to provide opportunities to obtain national economic, social or cultural benefits;

- scale and focus of research in **Strategic Research Priorities**;

- opportunities for researchers to pursue internationally competitive research in **collaboration** with organisations outside the higher education sector, targeting those who have demonstrated a clear commitment to high-quality research; and

- growth of **a national pool** of world-class researchers to meet the needs of the broader Australian innovation system.
Some Linkage Stats: Funding and Success Rates

Since 2005 there have been nearly 2200 instances of collaboration with Australian private companies, as partner organisations on linkage grants.
Success Rate: Comparison of Schemes

Success Rate in commencement year 2013

- Linkage - Infrastructure Equipment
- Linkage - Projects: 39%
- Discovery Indigenous
- Industrial Transformation Training
- Discovery - Projects
- ARC Future Fellowships
- Discovery Early Career Researcher
- Australian Laureate Fellowships

Web: arc.gov.au  |  Email: Communications@arc.gov.au
Updated LP15 Rules - changes

• Workshops, focus groups and conference costs that are necessary for the conduct of the proposed research may now be supported. All requests must be fully justified in the Proposal form.

• Travel costs essential to the Project are permitted up to a maximum average of $20,000 per year of the Project.
Updated LP15 Rules - changes cont.

• The Funding Rules now do not require a Partner Investigator from each Partner Organisation.

• A Project may now be applied for and awarded funding for a minimum of two to a maximum of five consecutive years.
Grants outcomes DP15

- 5 year grants
- Important to justify budgets!!
LP Linkages
University of Adelaide
2011-14
LP Linkages
SA
2011-14

Higher Education
Government
Commercial
Non-profit/other
LP Linkages
Australia
2011-14
Instances of international collaboration on approved proposals in *Linkage Projects 2014*
Gender balance LP

![Graph showing gender balance across different years and rounds of Linkage Projects. The graph displays the success rate for female and male applicants, with peaks and troughs indicating variations over time.](image)
Gender of First CI: LP14

![Graph showing male and female proposals]

- **Female**: 132 proposals, 59 funded (30.90% funded)
- **Male**: 314 proposals, 192 funded (37.90% funded)
Details of the Industrial Transformation Research Program – the Schemes

Overall objectives:

• foster important partnerships between business and universities;

• support researchers (higher degree by research & post doctoral fellows to gain ‘hands-on’, practical skills and experience in important areas.

Consists of two schemes:

• Industrial Transformation Research Program

• Industrial Transformation Training Centres
**Industrial Transformation Research Hubs - Objectives**

- encourage **collaborative R&D projects** to address **challenging industry issues** solved through innovative research relevant to the Industrial Transformation Priorities;

- leverage **local and international investment** in targeted industry sectors.
IH14 changes to Funding Rules

• The Funding Rules do not support Medical Research.*

• Travel costs essential to the Project are permitted up to a maximum average of $20,000 per year of the Project

• *Exception: ITRP Priority “medical devices and biotechnology”
  (See FAQs)
Industrial Transformation Research Hubs

Opportunities for universities and industrial partners to focus on significant collaborative R&D projects with outcomes beyond their independent endeavours.

- The ARC will invest up to $1 million per year in each Research Hub with matching investment by industry partners up to a maximum of five years.
Industral Transformation Training Centres - Objectives

• foster opportunities for Higher Degree by Research candidates and postdoctoral fellows to pursue industrial training and to enhance competitive research in collaboration between universities and organisations outside the Australian higher education sector; and

• Strengthen Australia’s Industrial Transformation Priorities to supplement the capabilities of industries and other research end-users.
Industrial Transformation Training Centres (ITTC)

To foster close partnerships between university-based researchers and industry to provide innovative training for early career researchers vital to Australia’s future industry.

Over the life of the program the ARC will enable:
• establishing Training Centres nationwide
• support Higher Degree by Research candidates and postdoctoral researchers in gaining real-world practical skills through placement in industry
• provide a minimum of $650,000 for the first three years, a minimum of $150,000 in the fourth year and no minimum in the fifth year, and a maximum of $1 million per year for up to 5 years for each Training Centre.
IC15 changes to funding rules

• The Funding Rules do not support Medical Research. (Exception Medical Devices)
• A Project may be applied for and awarded funding for four (4) or five (5) consecutive Years
• Applicants may now request:
  – a minimum of $650,000 funding from the ARC per year for the first three years, and
  – a minimum of $150,000 funding from the ARC in the fourth year.
  – There is no minimum level of ARC funding for the fifth year
• provision for salary support for a Training Centre Manager.

• Others: see ARC website
## Previous Rounds and success rates

<table>
<thead>
<tr>
<th>Round</th>
<th>Submitted Proposals</th>
<th>Funded Proposals</th>
<th>Success rate</th>
<th>Total funding</th>
<th>Allocation as a percentage of request</th>
</tr>
</thead>
<tbody>
<tr>
<td>IH12</td>
<td>12</td>
<td>4</td>
<td>33.33%</td>
<td>$16,695,193</td>
<td>86.85%</td>
</tr>
<tr>
<td>IC13</td>
<td>13</td>
<td>4</td>
<td>30.76%</td>
<td>$10,437,604</td>
<td>89.10%</td>
</tr>
<tr>
<td>IH13 Round 1</td>
<td>6</td>
<td>3</td>
<td>50.00%</td>
<td>$10,966,884</td>
<td>97.00%</td>
</tr>
<tr>
<td>IC14</td>
<td>13</td>
<td>7</td>
<td>53.84%</td>
<td>$16,141,217</td>
<td>97.00%</td>
</tr>
<tr>
<td>IH13 Round 2</td>
<td>15</td>
<td>7</td>
<td>46.66%</td>
<td>$24,741,067</td>
<td>96.95%</td>
</tr>
</tbody>
</table>
## Success rates for Industrial Transformation Priorities

<table>
<thead>
<tr>
<th>Round 1 Priorities (IH12 and IC13)</th>
<th>Number funded/Number Submitted</th>
<th>Proposal success rates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future food storage</td>
<td>1/4</td>
<td>4%</td>
</tr>
<tr>
<td>Food processing</td>
<td>4/16</td>
<td>16%</td>
</tr>
<tr>
<td>Manufacturing capabilities</td>
<td>5/13</td>
<td>20%</td>
</tr>
<tr>
<td>Product opportunities</td>
<td>6/16</td>
<td>24%</td>
</tr>
<tr>
<td>Other food related research</td>
<td>5/13</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Round 2 Priorities (IH13 R1 and IC14)</th>
<th>Number funded/Number Submitted</th>
<th>Proposal success rates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food storage</td>
<td>1/2</td>
<td>5%</td>
</tr>
<tr>
<td>Food processing</td>
<td>3/7</td>
<td>16%</td>
</tr>
<tr>
<td>Food manufacturing capabilities</td>
<td>2/5</td>
<td>11%</td>
</tr>
<tr>
<td>Product opportunities</td>
<td>5/9</td>
<td>26%</td>
</tr>
<tr>
<td>Product design and development</td>
<td>5/8</td>
<td>26%</td>
</tr>
<tr>
<td>Manufacturing techniques</td>
<td>5/9</td>
<td>26%</td>
</tr>
<tr>
<td>Defence manufacturing</td>
<td>1/2</td>
<td>5%</td>
</tr>
<tr>
<td>Firm organisation and management</td>
<td>1/1</td>
<td>5%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Round 2 Priorities (IH13 R2)</th>
<th>Number funded/Number Submitted</th>
<th>Proposal success rates*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing</td>
<td>1/3</td>
<td>6%</td>
</tr>
<tr>
<td>Food and agriculture</td>
<td>2/5</td>
<td>13%</td>
</tr>
<tr>
<td>Oil and gas, including petroleum</td>
<td>1/3</td>
<td>6%</td>
</tr>
<tr>
<td>Mining and mining services</td>
<td>3/4</td>
<td>19%</td>
</tr>
<tr>
<td>Medical devices and biotechnology</td>
<td>0/3</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Please note: Applications were able to select more than one Priority
funded Industrial Transformation Research Hubs in “2013” (Round 2)

<table>
<thead>
<tr>
<th>Research Hub</th>
<th>Administering Organisation</th>
<th>Hub Director</th>
<th>Approved funds over project life</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARC Research Hub for transforming the mining value chain</td>
<td>University of Tasmania</td>
<td>Prof David Cooke</td>
<td>$3,966,350.00</td>
</tr>
<tr>
<td>ARC Research Hub for Basin GEodyNamics and Evolution of Sedimentary Systems (GENESIS)</td>
<td>The University of Sydney</td>
<td>Prof Dietmar Muller</td>
<td>$2,748,358.00</td>
</tr>
<tr>
<td>ARC Research Hub for advanced breeding to transform prawn aquaculture</td>
<td>James Cook University</td>
<td>Prof Dean Jerry</td>
<td>$4,979,922.00</td>
</tr>
<tr>
<td>ARC Research Hub for transforming waste directly in cost-effective green manufacturing</td>
<td>The University of New South Wales</td>
<td>Prof Veena Sahajwalla</td>
<td>$2,181,756.00</td>
</tr>
<tr>
<td>ARC Research Hub for genetic diversity and molecular breeding for wheat in a hot and dry climate</td>
<td>The University of Adelaide</td>
<td>A/Prof Sigrid Heuer</td>
<td>$4,308,668.00</td>
</tr>
<tr>
<td>ARC Research Hub for Advanced Technologies for Australian Iron Ore</td>
<td>The University of Newcastle</td>
<td>Prof Kevin Galvin</td>
<td>$3,273,780.00</td>
</tr>
<tr>
<td>ARC Research Hub for Australian Copper-Uranium</td>
<td>The University of Adelaide</td>
<td>Prof Stephen Grano</td>
<td>$2,526,617.00</td>
</tr>
</tbody>
</table>
ITRP Linkages

all rounds

Higher Education
Government
Industry / other
Large Investments in excellence for the longer term

• Industrial Transformation Research Program
  – Hubs $500K to $1m a year for up to five years
  – Centres $650K to $1m a year for up to five years

• Co-funded and Special Research Initiatives – various funding and duration

• ARC Centres of Excellence $1-4 m a year for up to seven years
The ARC Centres of Excellence - overview

ARC Centres of Excellence involve significant collaboration with:

• universities
• publicly funded research organisations
• other research bodies
• government
• business

in all fields of research except medical and dental research
The ARC Centres of Excellence – Objectives

a) highly innovative and potentially transformational research that aims to knowledge;
b) interdisciplinary, collaborative approaches to
c) develop relationships and build new networks
d) build Australia’s human capacity in a range of;
e) postgraduate and postdoctoral training
f) large-scale problems over longer periods of
g) points of interaction between unis, business, govt, private sector
What the Centres need to look like

• The Centres are the largest investments of the ARC Grants Program
• Centres foster frontier interdisciplinary research – with innovative and highly integrated Research Programs
• Centres are critical for the next generation of researchers – capacity building
• Leading the way – international reputation
• Building on important collaborations
• Public benefits and research impact
Key features of a Centre Director

- Have a big vision
- Be outward looking
- Have a compelling research question
- Be able to explain this to a broad audience (get mock panels from broad disciplines to evaluate the proposal)
- Propose topical and practical research, but also blue sky with unexpected outcomes
- Be a mentor and a leader at the cutting edge of your field, able to take the research to an internationally outstanding level
- It is not about what you have done, but what you are going to do
- Teamwork is important: have the ability to pull together all the right people, in an effective manner
- Be a centre builder
- Not be at the end of your career; what is the legacy this proposal will leave to the next generation in terms of project outcomes and resources?
- If at regional university, demonstrate strong research commitment
Centres of Excellence

Next Round, CE17 Consultation

- Process
- EOI requirement
- Feedback

*BSB = Biological Sciences and Biotechnology; EMI = Engineering, Mathematics and Informatics; HCA = Humanities and Creative Arts; PCE = Physics, Chemistry and Earth Sciences; SBE = Social, Behavioural and Economics Sciences

Source: 2014 Selection Report Table 1
# The ARC Centres of Excellence - timelines

<table>
<thead>
<tr>
<th>Task</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation</td>
<td>November 2014</td>
</tr>
<tr>
<td>Funding round opens</td>
<td>First quarter 2015</td>
</tr>
<tr>
<td>Expression of interest</td>
<td>Second quarter 2015</td>
</tr>
<tr>
<td>First stage assessment and shortlisting</td>
<td>Mid - 2015</td>
</tr>
<tr>
<td>Call for full proposals</td>
<td>Third quarter 2015</td>
</tr>
<tr>
<td>Assessment of full proposals</td>
<td>First quarter 2016</td>
</tr>
<tr>
<td>Interviews</td>
<td>Second quarter 2016</td>
</tr>
<tr>
<td>Announcement of successful projects</td>
<td>Mid-2016</td>
</tr>
<tr>
<td>Commencement of new projects</td>
<td>January 2017</td>
</tr>
</tbody>
</table>
RMS 2.0

ARC successfully launched Release 1 of RMS 2.0 on Thursday 21 August 2014.

• RMS 2.0 is a more intuitive system that offers:
  – Improved workflow
  – Enhanced navigation
  – Faster PDF generation, and
  – Other technical improvements

• To assist the use of RMS 2.0, information is available on the ARC internet, & through Research Offices.

• As new functionality is added to RMS 2.0 more information will be provided to users.
RMS 2.0 – Release 1

- Since the release the ARC RMS Help Desk has received queries in relation to:
  - Password resets
  - Updating org and user details
- Questions received will be thematically represented as FAQs and published on the internet to assist all users.

- Feedback
  - RMS helpdesk rms@arc.gov.au or 02 6287 6789