Women in Research Leadership
Monday 20 June 2011

Master class - Persistent Issues

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Government Investment in Research

2011-12

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

National Competitive Grants Program
$810M in 11-12

Discovery & Fellowships
$502 M

Linkage & Centres
$308 M

Evaluation and Policy

Excellence in Research for Australia

NCGP aims to:

• Support research excellence
• Funding for facilities and equipment that researchers need to be internationally competitive
• Support training and develop skills for future researchers
• Provide incentives for partnerships and collaboration nationally and internationally
Instances of scientists on submitted proposals (all schemes)

Data for Year 2010 does not include all schemes.
Distribution of female scientists by funding scheme (2001-10)

Schemes where female scientists participate (2001-2010) - total 100% - not all schemes listed

- Discovery - Projects: 55.6%
- Linkage - Projects: 17%
- Linkage - Infrastructure: 12%
- Linkage - International: 3%
- Centres of Excellence: 2%
- Linkage - APAl Only: 2%
- Special Research Initiatives: 4.4%
Success rate of female scientists by funding scheme (2001-10)

Success rate by scheme (2001 - 2010)

- Special Research...
- Linkage Infrastructure
- Super Science Fellowships
- Linkage Projects
- Linkage International
- ARC Research Networks
- Discovery Indigenous
- ARC Future Fellowships
- ARC Centres of Excellence
- Discovery Projects
- Federation Fellowships
- Australian Laureate...
- Linkage - APD CSIRO
- SRI (Thinking Systems)

Female: 24.2%  Male: 23.8%
Participation of female scientists by funding scheme (2001-10)
Proportion of male and female applicants and corresponding success rates by career age (DPs, 2001-10)
Career age and success rate of female scientists (DPs, 2001-10)
Career age and success rate of female scientists (DPs, 2001-10)
Funding split in Sciences by gender (2001-10)

Funding split in Sciences (2001 - 2010)

- Male-only projects: 62%
- Mixed-gender projects: 32%
- Female-only projects: 6%
What about according to discipline?
Percentage of female scientists on funded projects by 2-digit discipline (2001-09)
Funding instances for female scientists by 2-digit discipline (2001-09)

Note - Data is the total instances of funding for female scientists.
HCA female applicants (female) by age - all DP proposals 2001-2009
Gender success rate & proportion in DP05 – DP09 proposals

The graph shows the proportion of total female and male scientists as well as their success rates across different career age groups. The x-axis represents career age in years since the award of a PhD or HCA, while the y-axis represents the proportion of total female and male scientists along with their success rates. The data is categorized into seven age groups: 0-5 years, 5-10 years, 10-15 years, 15-20 years, 20-25 years, 25-30 years, and 30+ years.

Key observations from the graph:
- In the 0-5 years group, the percentage of females is significantly higher than males, indicating a strong representation of women in the early stages of their career.
- As career age increases, the proportion of males starts to rise, particularly in the 20-25 years and 25-30 years categories, suggesting a higher rate of male entry or advancement in these age groups.
- The success rate for females remains consistently higher than males across all age groups, demonstrating a gender disparity in success rates.

Overall, the graph highlights the gender disparity in representation and success rates among scientists across different career stages.
How do we then encourage women scientists to reach for excellence?
Changing language; changing landscape

Encouraging opportunity; not simply providing it

Re-enforcing leadership
Research Opportunity and Performance Evidence (ROPE)

• Changing how we measure excellence
  Track record v. Performance evidence

• Assessors take into account any career interruptions, such as:
  – Childbirth
  – Carer’s responsibility
  – Misadventure
  – Debilitating illness
Encouraging Opportunity

Career interruptions

For ECRs and women researchers

Options to convert & teaching transitions
Australian Laureate Fellowships
- 2x PhD
- 2x Post-Doc
- 17 5-year awards

Discovery Early Career Researcher Award (DECRA)
- $125,000
- 200 p.a. 3-year awards

Researchers in Industry Training Awards
- $30,000
- 100 3-year awards (bi-annual)

Future Fellowships
- Up to $143,000
- 200 p.a. 4-year fellowships
The ARC aims to:

- Provide opportunities for researchers at every career stage
- Foster a range of different cohorts
The ARC does not:

- Employ researchers directly
- Aim to provide a complete externally funded career structure
- Funds all the excellent research proposals it receives
# ARC Federation and Laureate Fellows

<table>
<thead>
<tr>
<th>Year</th>
<th>Fellows</th>
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<tbody>
<tr>
<td>2008</td>
<td>Bernadette McSherry</td>
</tr>
<tr>
<td></td>
<td>Cheryl Praeger</td>
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<tr>
<td>2009</td>
<td>Frances Baum</td>
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<td></td>
<td>Tanya Monro</td>
</tr>
<tr>
<td></td>
<td>Michelle Simmons</td>
</tr>
<tr>
<td>2010</td>
<td>Lesley Head</td>
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<tr>
<td>2011</td>
<td>Hilary Charlesworth</td>
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<tr>
<td></td>
<td>Margaret Jolly</td>
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<td></td>
<td>Hanna Kokko</td>
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<td>Lorraine Mazerolle</td>
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FOCUS:
• International repute
• Sustained leadership & mentoring

OBJECTIVES:
• Attract and retain outstanding research leaders
• Build and strengthen world-class research capability
• Provide excellent research – training environment
• Expand knowledge base
• Forge strong links
• Support research
BEYOND BIAS AND BARRIERS: Fulfilling the Potential of Women in Academic Science and Engineering

Key Findings of this US study

1) Women have the ability to succeed in Science & Engineering
2) Women lost out at every career transition
3) Problem is not simply the pipeline
4) Women are likely to face discrimination in all fields
5) Evidence that most people have implicit biases
6) Measures of success in performance-evaluation systems are often arbitrary and frequently place disadvantage women. "Assertiveness," for example, may be viewed as a socially unacceptable trait for women but suitable for men.
Strategies - Mentors and Role Models

- Different purposes and times
  - Research network vs internal advice
  - Need varies, it evolves in your career

- **Good mentors** are absolutely critical to all aspects of academic/scientific life!!
Some top career tips

#1  Don’t Cater
#27  Avoid Feeding Others
#89  Avoid making Notes, Coffee & Copies
# 2  Be Prepared
#34  Don’t believe others know more
#3  Learn to let go
#74  Don’t look back
#51  Don’t do the work of others
What else can we do?

- Universities need to fundamentally encourage women into research, and actively support and mentor them to really succeed in their research disciplines.
- This includes mentoring on preparation of high quality grant proposals.
- The ARC provides opportunities through its schemes for women but more applications need to be received from universities.
The ARC is committed to working with institutions to support careers in flexible and innovative ways in order to maximise opportunities for our talent.

Professor Andrew Wells
Deputy CEO, Australian Research Council