Women in STEM: Transformational Times

Dr Marguerite Evans-Galea, PhD

@MVEG001
Marie Curie  
1867-1934  
Physicist/Chemist  
*Radioactivity*  
Two Nobel Prizes  
First female Professor at University of Paris

Rosalind Franklin  
1920 - 1958  
Biophysicist  
*Structure of DNA*

Ruby Payne-Scott  
1912- 1981  
Physicist  
*Radio Astronomy*  
First female radio astronomer, University of Sydney  
1951: had to leave CSIRO (married)
1952

International Union of Radio Science
2015

Atomic and Molecular Physics, ANU
2014

Microbiology & Biology, Penn State

4/17 Faculty members are women – 2 Professors, 1 Em. Prof.
Gender imbalance – *Natural & Physical Sciences*

A waste of valuable national investment - negatively impacts on Australia’s scientific performance, productivity and outcomes

Sharon Bell and colleagues: Women in the Science Research Workforce
(ARC, BioMedVic, RACI, STA)
Life Sciences - the shape and gender of the academic workforce

- PhD Graduates ~4000 per year
- Retirement Age
- Salaries on par
- Males paid more

Education (higher/other; private/govt)
Private
Health
Govt
Research MSc/PhD graduates
Males paid more
The Walter and Eliza Hall Institute is acutely aware of the difficulties, especially for women, to make the transition from post-doctoral scientist to laboratory head and, from there, to more senior roles.

As at April 2011:

- nearly 60 per cent of our undergraduate and PhD students are women
- about half of our post-doctoral scientists are women
- 25 per cent of our lab heads are women but only one of our 15 division heads and only two of our 21 professors are women.

Dr Ann Cornish, Dr Ingela Vikstrom and Ms Kristy O’Donnell, pictured here with institute director Professor Doug Hilton, should benefit from the
Of almost 500 living fellows of the academy, 92% are men and 8% are women.

2014: 10 of 21 new Fellows were women.

Push to make Academy of Science a woman's world

By Kathleen Dyett
Updated Fri 31 May 2013, 8:29pm AEST

The Australian Academy of Science in Canberra hopes to boost the number of women nominated for its prestigious fellowship, by imposing new conditions on the selection process.

There were no women among the 20 scientists elected as fellows of the academy this year, which has prompted criticism of the process.

Since 2000, only 27 women have been recognised as fellows of the academy.

Academy president Professor Suzanne Cory says she does not want a repeat of that situation.

"I felt terrible about the situation [this year], as did we all," she said.

"We certainly do not want that to ever happen again."

Professor Cory says during the selection process, 13 committees narrow down a list of three names for consideration.
Getting educated in gender equity – one scientist shares his experience

Posted on October 11, 2014 by Women in Science AUSTRALIA

Professor Bryan Gaensler is an Australian Laureate Fellow at The University of Sydney, where he was the founding director of the ARC Centre of Excellence for All-sky Astrophysics (CAASTRO). He received his PhD from The University of Sydney in 1998, and subsequently held positions at MIT, the Smithsonian Institution and Harvard
Women in Science Parkville Precinct

How can we be the best at research and translation by providing an environment that allows more women in science to lead and excel?

Peter Mac

Wispp
Women in Science Parkville Precinct

@wisparkville
NHMRC and the science gender gap

Enrolments

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrolments</th>
<th>Gender</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1937</td>
<td>4 pp app, 49%</td>
<td>20% F</td>
<td>~10%</td>
</tr>
<tr>
<td>1980</td>
<td>&gt;30 pp app, 30%</td>
<td>50% F</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>&gt;60 pp app, 23%</td>
<td>60% F</td>
<td>~10%</td>
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1972: Australia’s first woman deputy chancellor (Roma Mitchell)
1983: Australia’s first female chancellor (Roma Mitchell)
2010: NHMRC introduced career disruptions in grant applications
2012: Women in Health Science Committee appointed
2013: Part-time options available for all NHMRC schemes
2014: Tying of gender equity policies to administration of funding
2015: Re-entry Fellowships for men and women experiencing career disruptions

*Balanced representation between men and women on peer review committees whenever possible, and publish funding outcomes by gender. Many other positive initiatives in the pipeline!*
IMPORTANT THINGS TO REMEMBER
Challenges attracting women to certain disciplines – these include engineering, tech, agriculture and maths

Sharon Bell and colleagues, Women in Science in Australia, 2009 (FASTS, Bio21 Cluster)
There Are Still Few Women At The Top Of Fortune 500 Companies, Says Report

While some major U.S. companies have made it a priority to advance women into leadership roles, a massive gender gap still remains when it comes to those positions at the top. According to a new Catalyst census of Fortune 500 companies, there has been little to no increase of female CEOs, CFOs and board members over the past three years.
It’s not just Australia

The Netherlands
It’s not just Australia

Switzerland
It’s not just Australia

Canada

Figure 3.2
Percentage of Women and Men at Different Academic Levels in HSE
This figure displays the percentage of women and men in humanities, social sciences, and education in 2008–2009 at various stages of the academic career in Canadian universities.

(Data Source: Statistics Canada, n.d.d., n.d.b.)
It’s not just Australia

UK

Science: a girl thing, not a women thing (yet)

- GCSEs: 48.8% Female, 51.2% Male
- A Levels: 42.2% Female, 57.8% Male
- Undergraduates: 33.2% Female, 66.8% Male
- Post-graduates: 34% Female, 66% Male
- Researchers: 30.3% Female, 69.7% Male
- Lecturers: 26.1% Female, 73.9% Male
- Senior Lectures: 18.3% Female, 81.7% Male
- Professors: 9.3% Female, 90.7% Male

Data: UKRC theukrc.org

fullfact.org
IT'S NOT JUST ABOUT HAVING KIDS
Fewer women than men want to become independent researchers

Independent research is considered an unattractive career (long hours, extensive travel and highly competitive)

NIH, US data: 1,300 postdoc respondents
Men and women in science discriminate against women

- Postgraduate student application for a laboratory manager position
- 127 biology, chemistry and physics professors were asked to provide feedback
- Half received a “male” application, half received a “female” application
- All applications were identical – only name/gender changed

Both male and female science faculty consistently scored the female applicant lower
It is about having role models and fully realising the potential of women in research.
It is about all of us
Disclaimer

1. Woman in science

2. Member of...

3. Co-founder of...

I feel pretty strongly about all of this
NHMRC RE-ENTRY FELLOWSHIPS
Significant disruptions at the early stages of a research career—*for any reason*—have a “whole-of-career impact”

More women than men experience disruptions early in their career

Sharon Bell and colleagues, Women in Science in Australia, FASTS Report, 2009
FREE REGISTRATION AT: www.womeninscienceaust.org