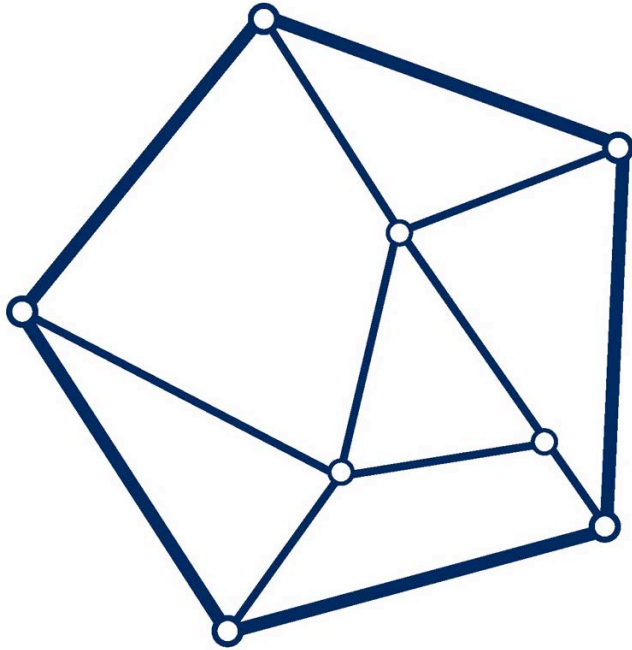




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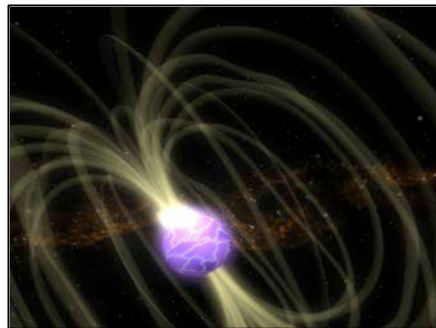
Bias and Gender in Astronomy: Not A Niche Issue

Bryan Gaensler

CAASTRO Director

www.caaastro.org

*with slides borrowed from
Cathy Foley, Joan Schmelz & Sarah Brough*





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Ruby Payne-Scott (1912 - 1981)





- › NSW Chief Scientist
- › CEO of CSIRO
- › CEO of the ARC
- › President, Academy of Science
- › President, Science & Technology Australia

Without significant female seniority in the sector, this profile of leadership – arguably based on individual achievement – is fragile.



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Avoid Anecdotes - Know the Facts

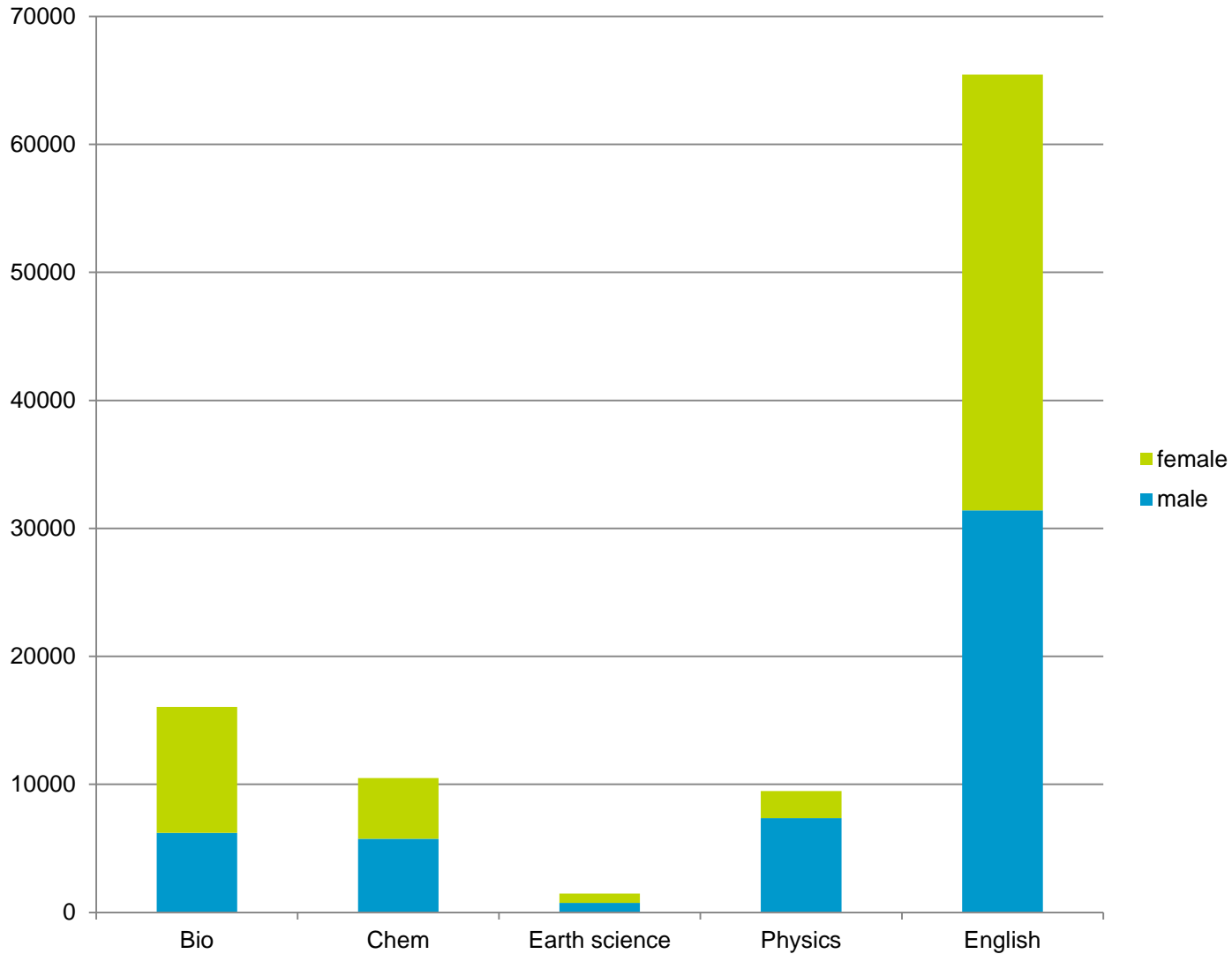
FASTS ——— Federation of Australian Scientific and Technological Societies

WOMEN IN SCIENCE IN AUSTRALIA: MAXIMISING PRODUCTIVITY, DIVERSITY AND INNOVATION

Report prepared for FASTS
October 2009

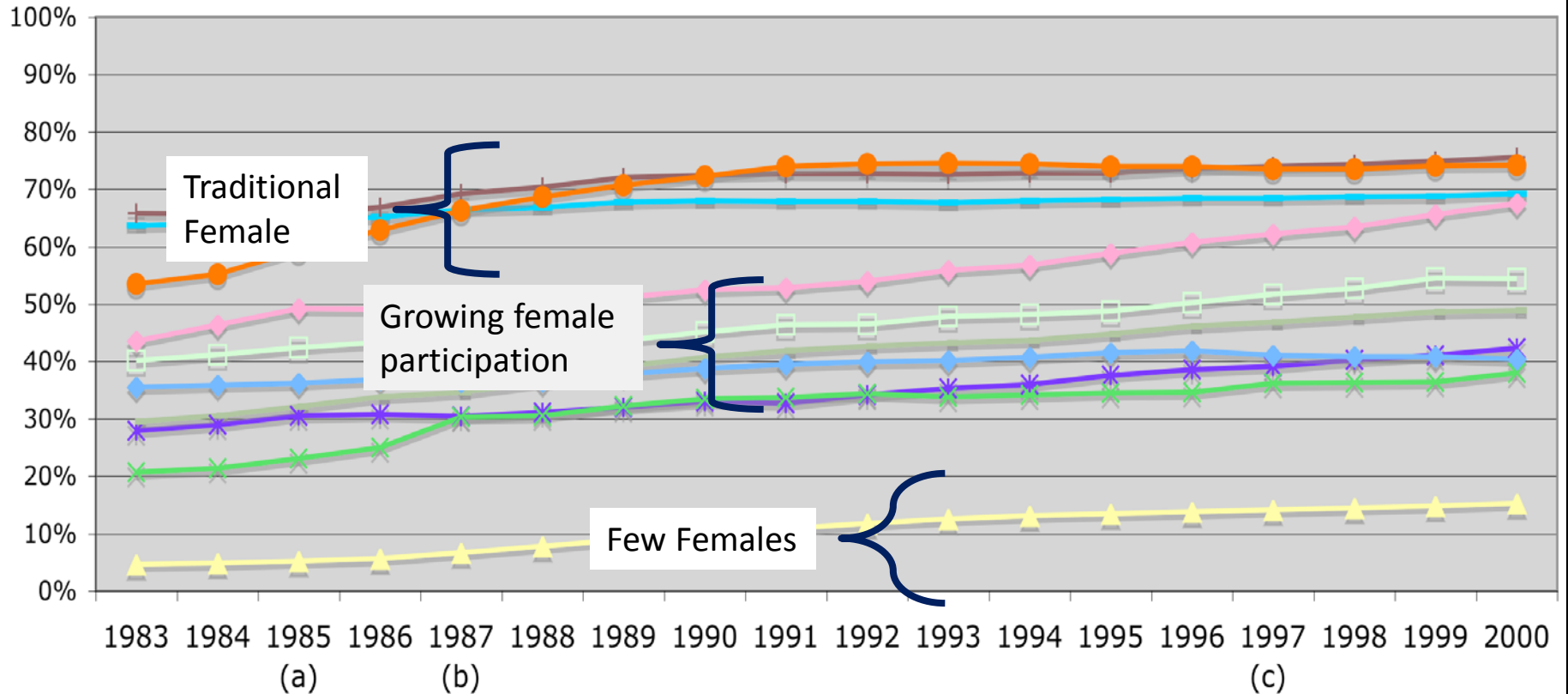
SHARON BELL

with assistance from Kate O'Halloran,
Jesslyn Saw & Yu Zhao





Female Uni Enrolments by Topic

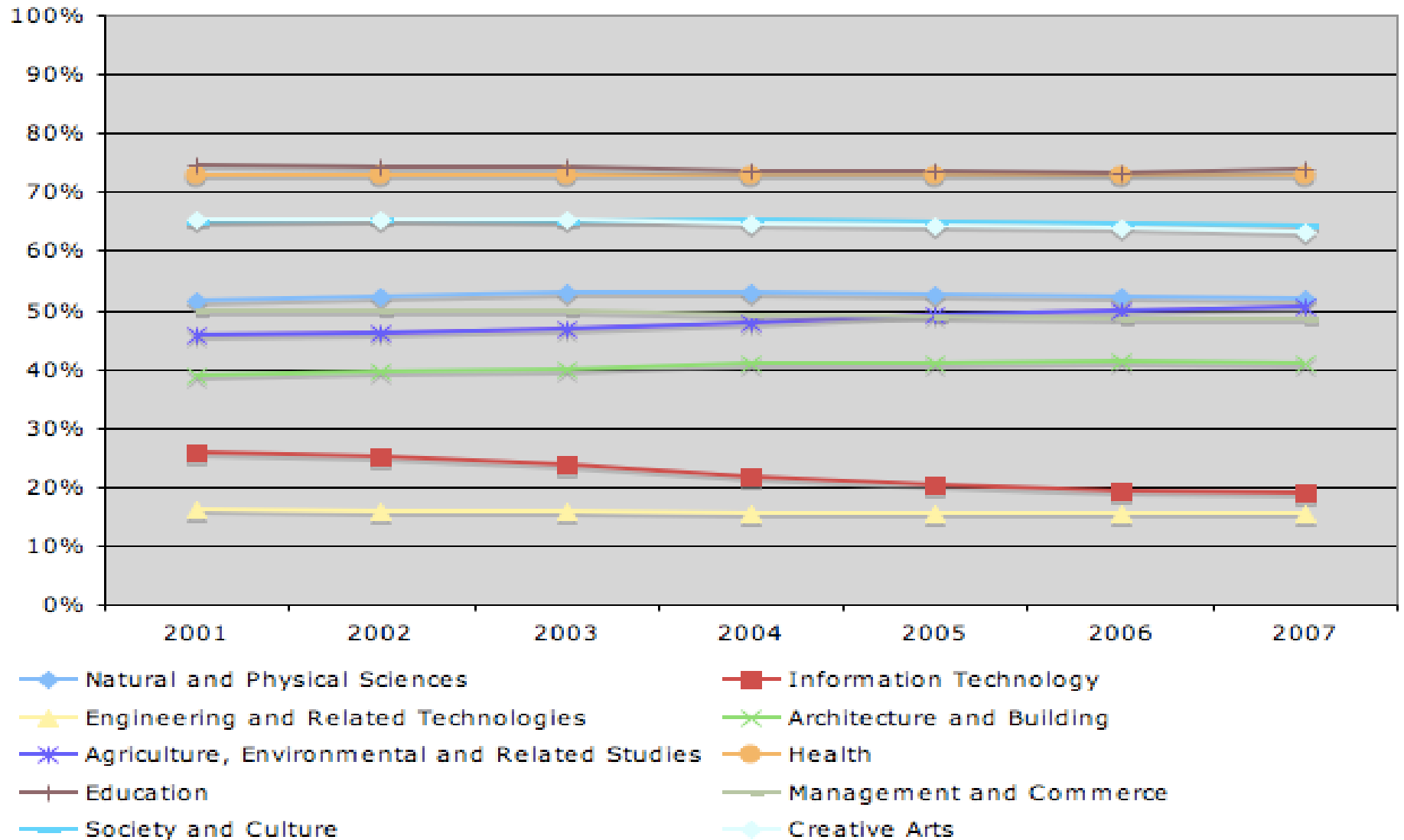


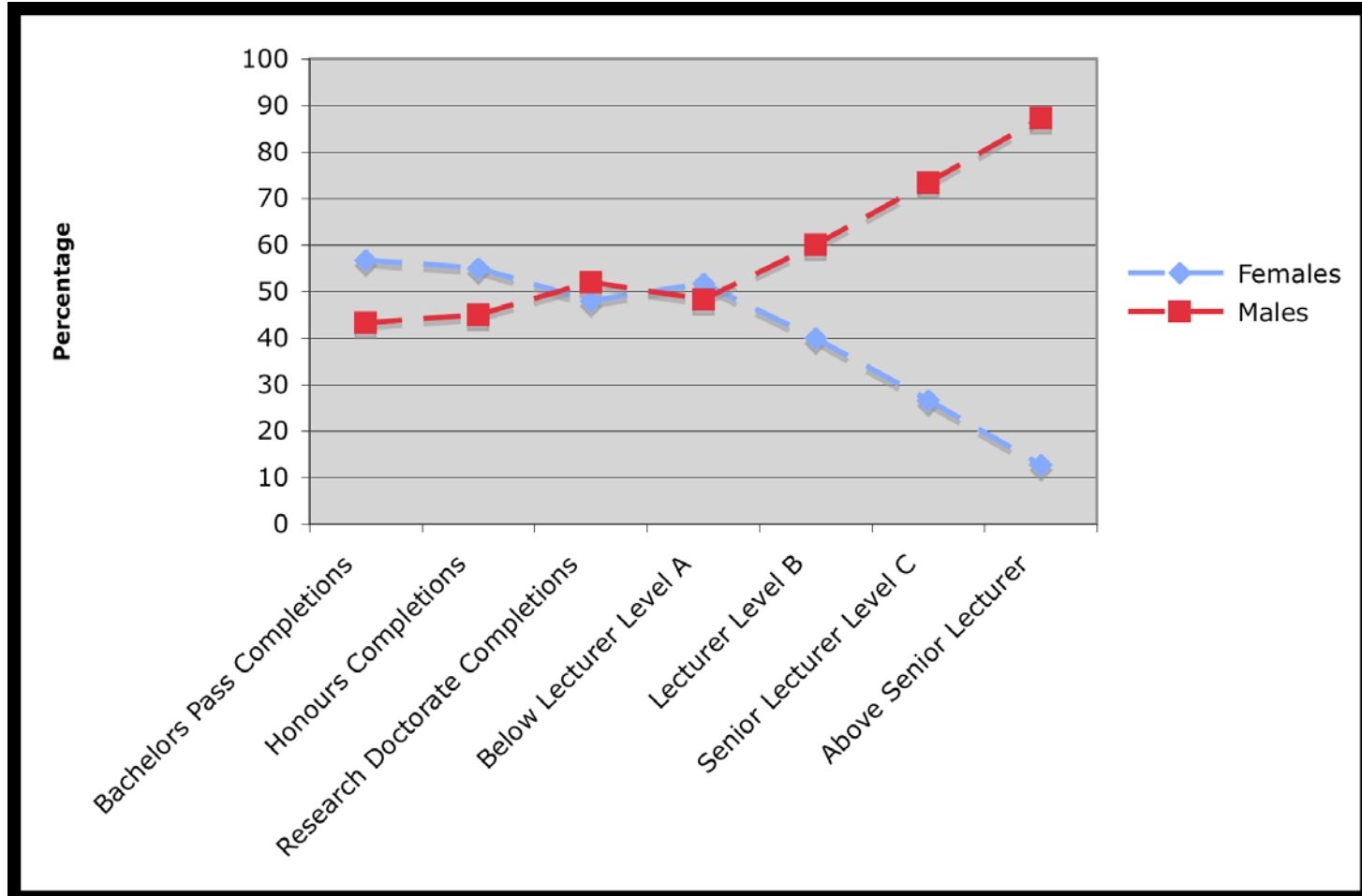
- ✱ Agriculture, Animal Husbandry
- Arts, Humanities and Social Sciences
- Education
- Health
- ◆ Science

- ✱ Architecture, Building
- Business, Administration, Economics
- ▲ Engineering, Surveying
- Law, Legal Studies
- ◆ Veterinary Science

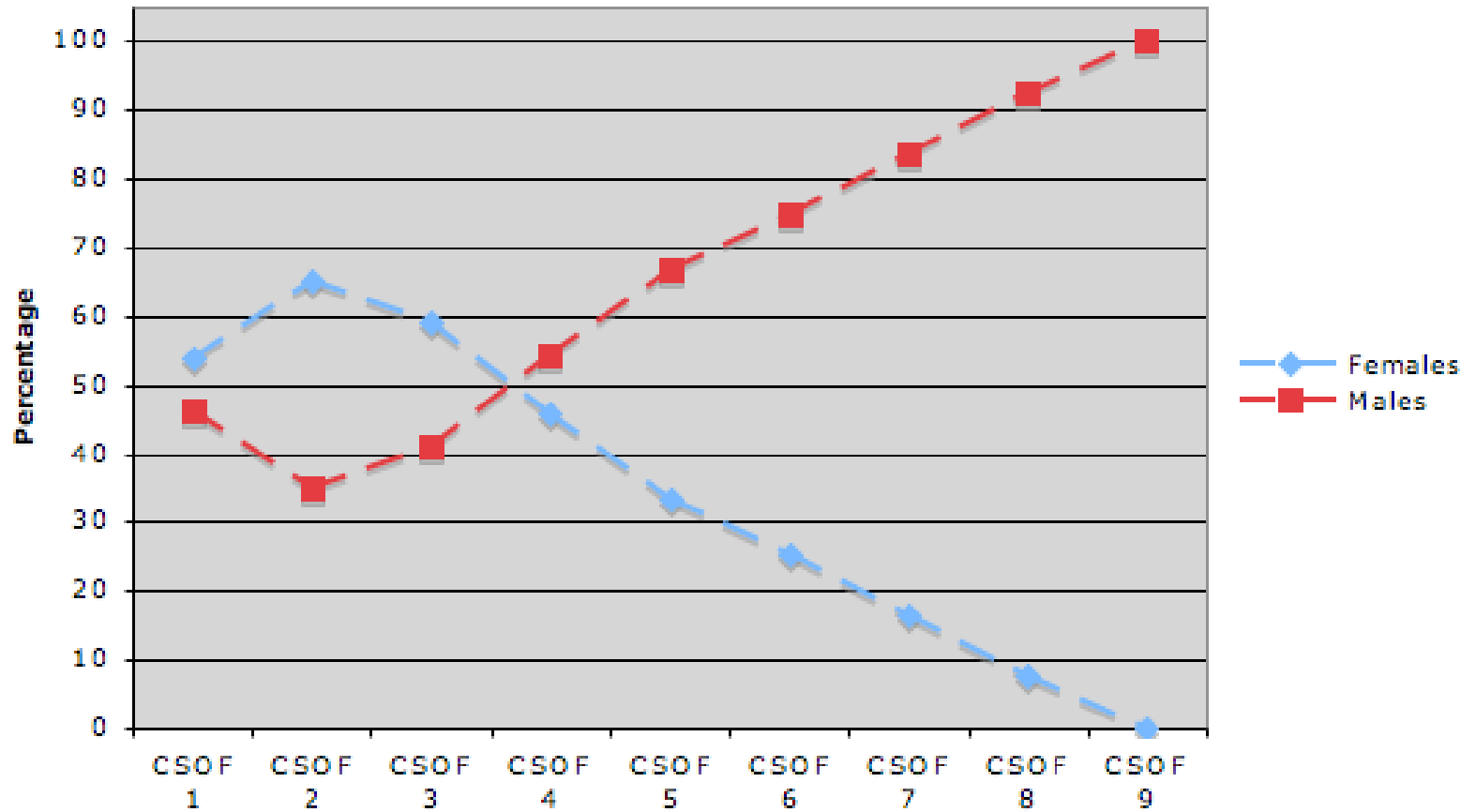


Female Uni Enrolments by Topic





Academic Profiles by Gender; Natural and Physical Sciences 2007 Source: DEEWR Selected Higher Education Student Statistics 2007; DEST Special Report FTE Staff in AOU Groups 2007

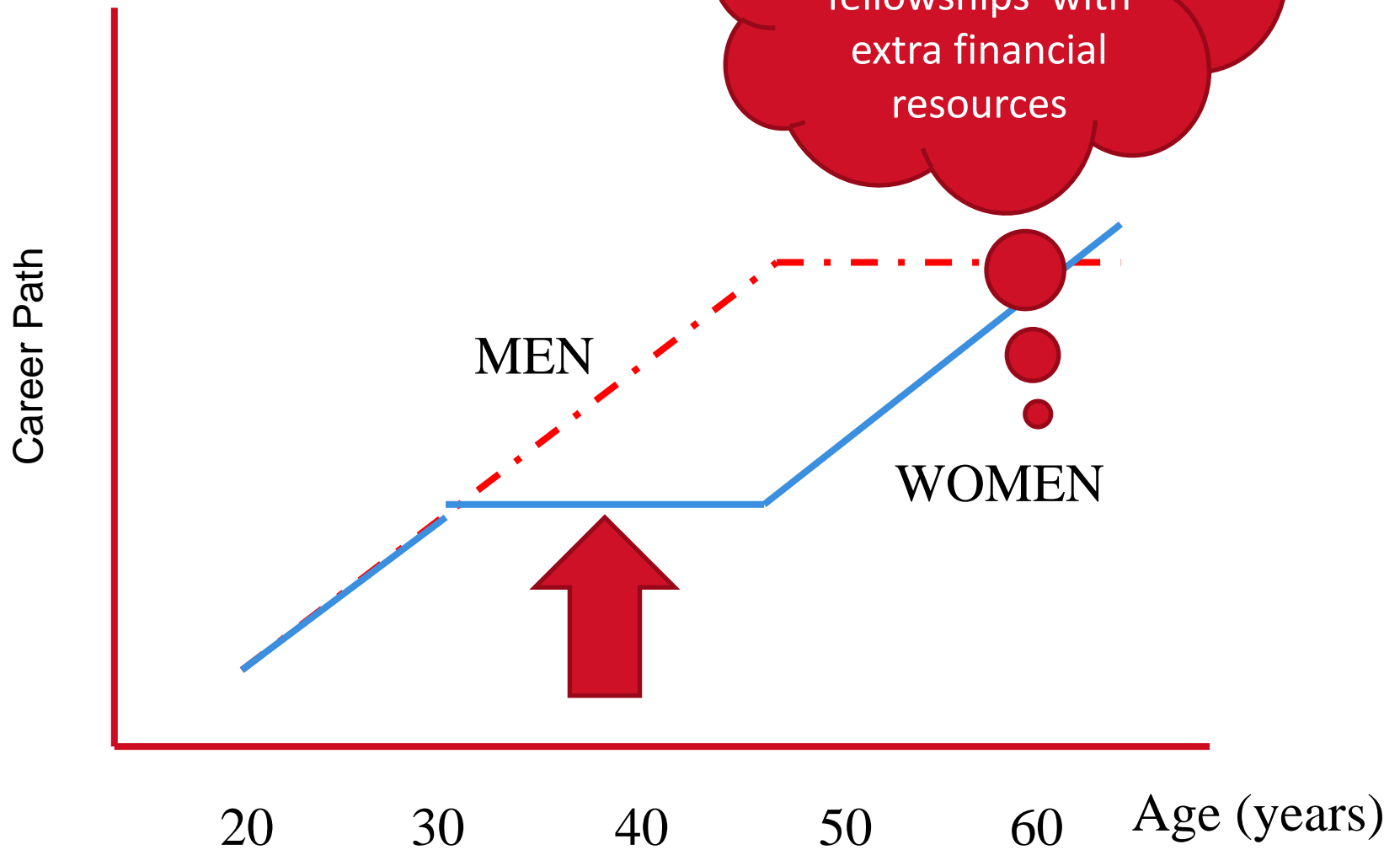


Percentage of Females by CSOF level 2009

Source: CSIRO Annual Report 07/08



Career Paths





Traditional Career Path

FORMAL CAREER PROGRESS

PHD

POSTDOCTORAL RESEARCH
FELLOWSHIP(S)

LEVEL B ACADEMIC

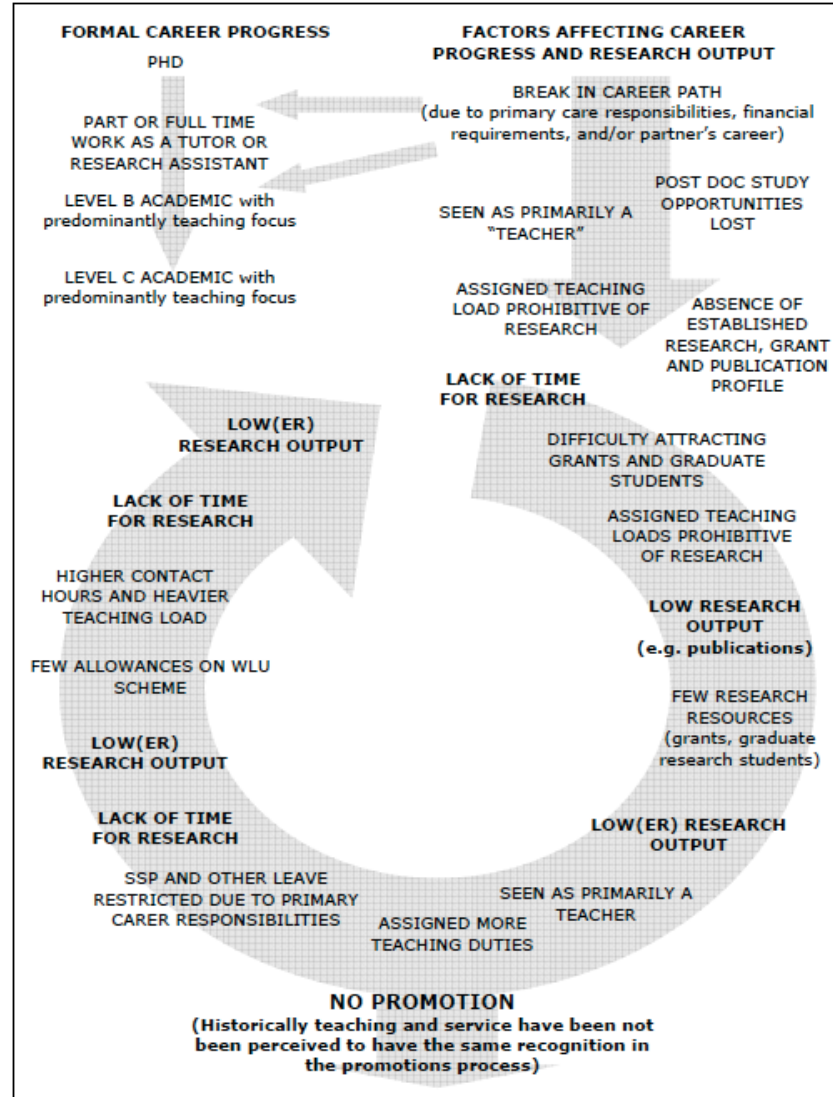
LEVEL C ACADEMIC

LEVEL D ACADEMIC

LEVEL E ACADEMIC

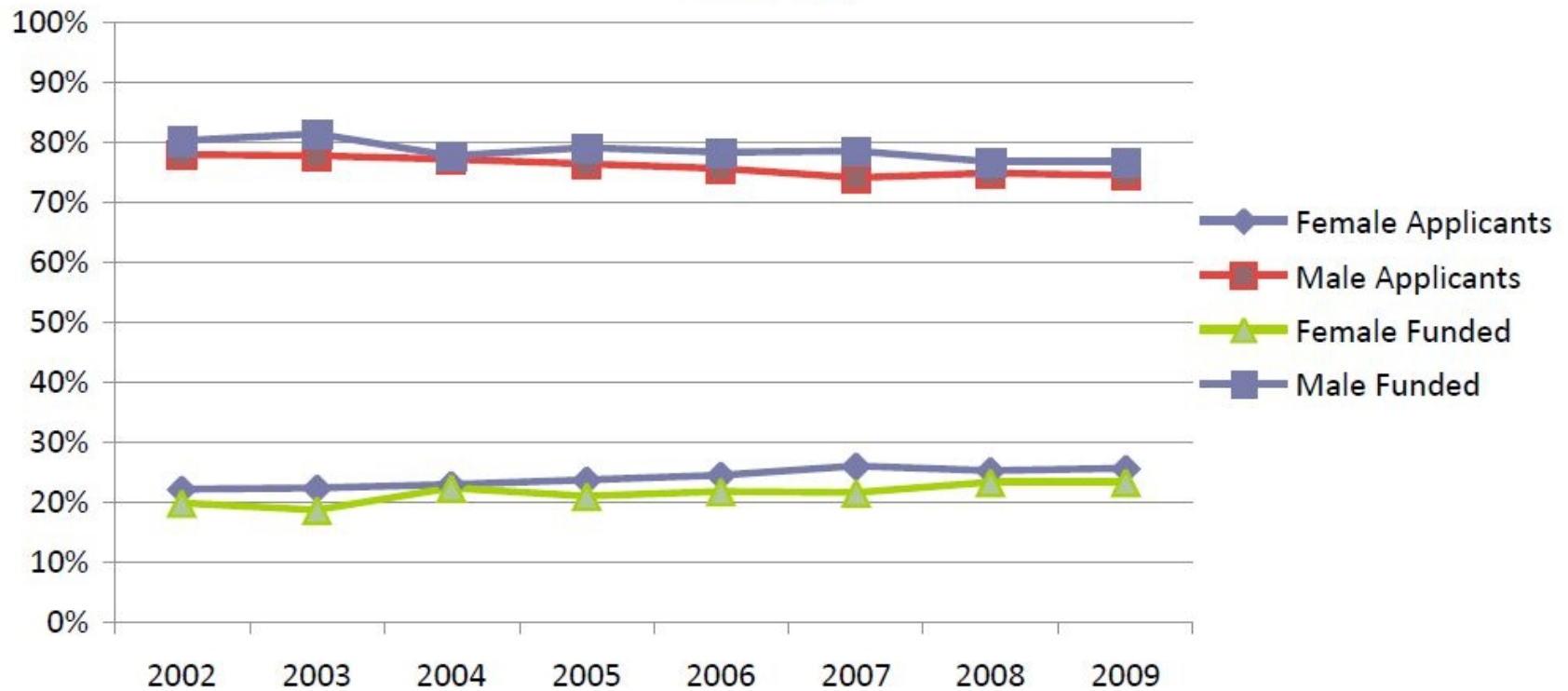


Actual Career Path





**Applications and Grants for ARC Discovery projects by Gender
2002-2009**





› **ARC Discovery and Linkage grants**

- Success rates for male and female applicants across all ARC grant schemes are comparable.
- Participation rates for women are significantly lower than for males for Discovery and Linkage grants.
- ARC Future Fellowships are designed to attract and retain the best and brightest mid-career researchers yet women constituted 29% of applicants.
- Women make up only 8.5% of ARC Federation Fellows, designed to attract world-class researchers and world-class research leaders to key positions.

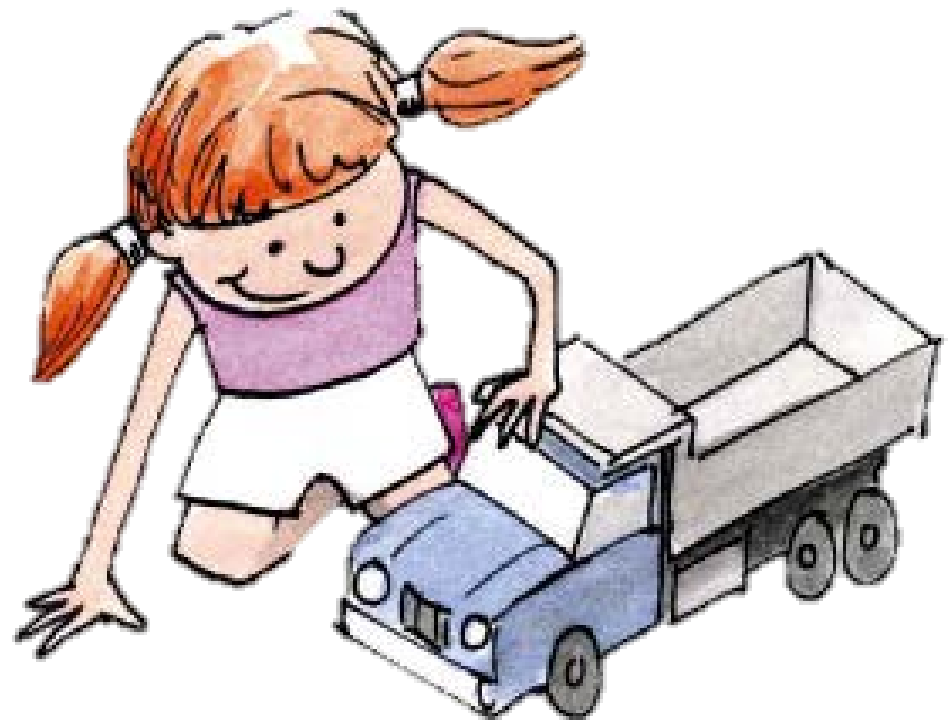
› **Learned Academies**

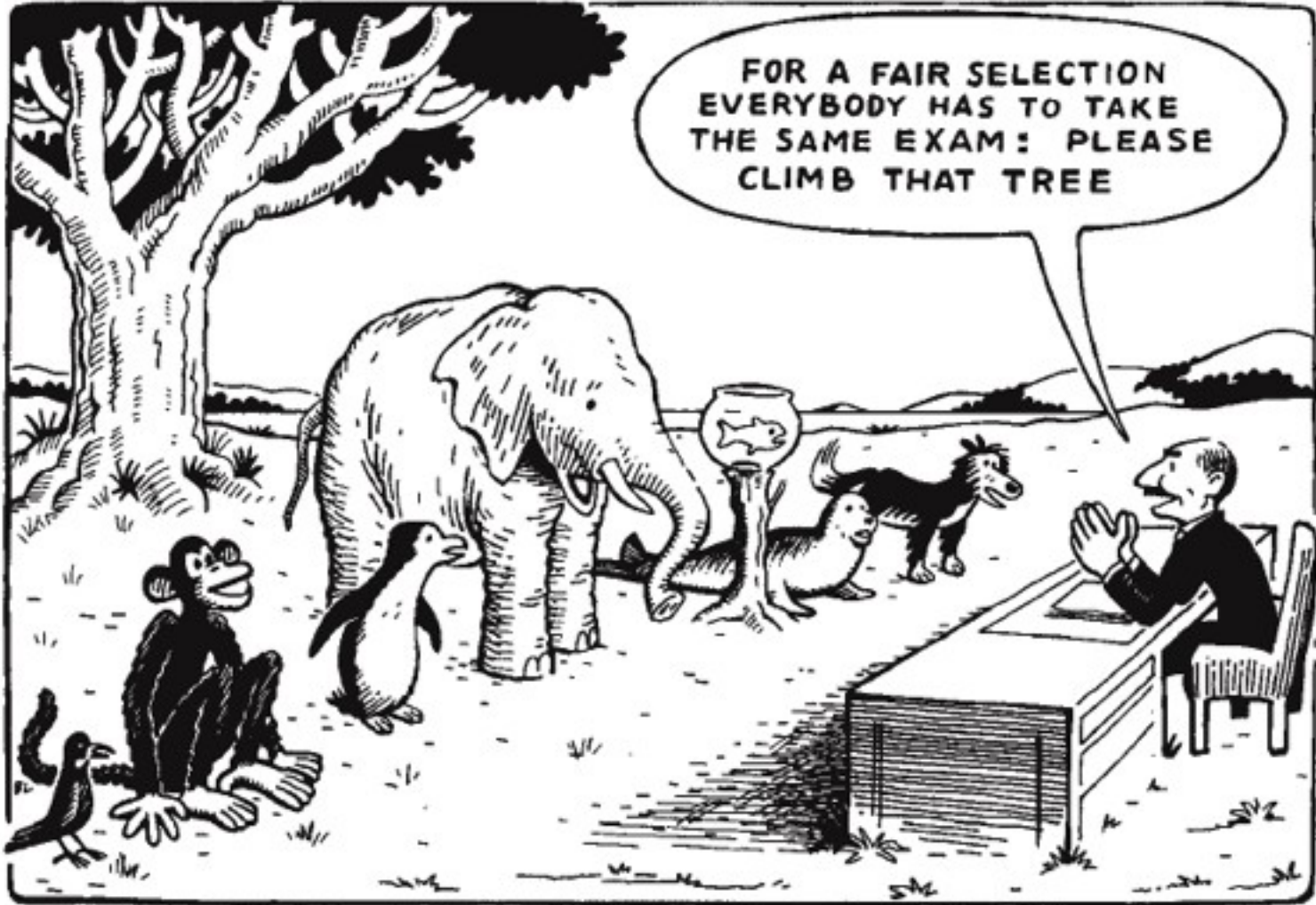
- Academy of Science - women constitute only 7% of Fellows.
- Academy of Technological Sciences & Engineering - 6% of Fellows are female.



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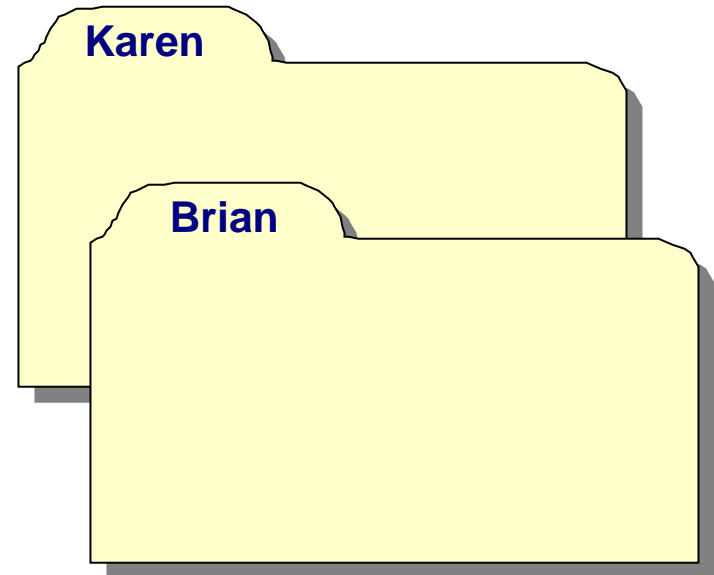
Unconscious Bias







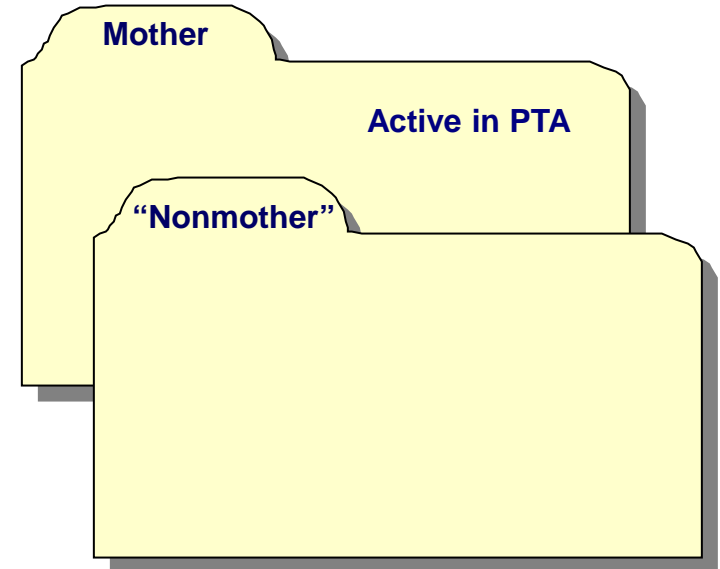
- › Teams of male and female university psych profs (search committees)
- › Evaluate candidates for an open position (assist prof of psych)
- › Application packages for Karen and Brian are identical except for name
- › Search committees preferred 2:1 to hire Brian over Karen
- › When evaluating a more experienced record (at the point of promotion to tenure), reservations were expressed 4 times more often when the name was female.





When evaluating identical applications:

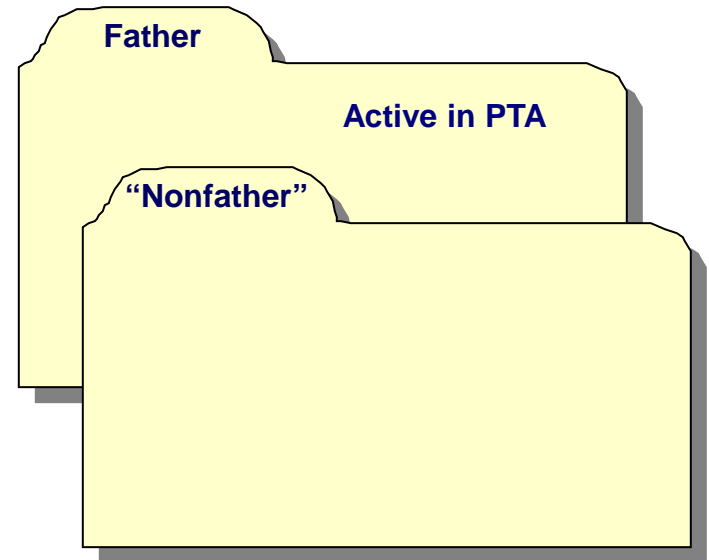
- › Evaluators rated mothers as less competent and committed to paid work than nonmothers.
- › Prospective employers called mothers back about half as often.
- › Mothers were less likely to be recommended for hire, promotion, and management.
- › Mothers were offered lower starting salaries.





When evaluating identical applications:

- › Fathers were *not* disadvantaged in the hiring process.
- › Fathers were seen as *more* committed to paid work.
- › Fathers were offered *higher* starting salaries.





How Do You Hire Someone?

1. Form a search committee
2. Write an ad targeting a specific sub-discipline
3. Advertise the position
4. Wait for the applications to pour in

If you follow this standard practice, odds are that the gender (and racial) diversity of your applicant pool will look a lot like your current department. If you want the pool to be more diverse, you have to work a bit harder.



1. Set criteria before looking at applications
2. Evaluate all applications based on the same criteria
3. All candidates that meet the criteria become part of the “long short list”
4. All long short list candidates get phone interviews



Candidate Evaluation Tool

Please indicate which of the following are true for you (check all that apply):

- Read candidate's CV
- Read candidate's scholarship
- Read candidate's letters of recommendation
- Attended candidate's job talk
- Met with candidate
- Attended lunch or dinner with candidate
- Other (please explain):

| Please rate the candidate on each of the following: | excellent | good | neutral | fair | poor | unable to judge |
|--|-----------|------|---------|------|------|-----------------|
| Potential for (Evidence of) scholarly impact | | | | | | |
| Potential for (Evidence of) research productivity | | | | | | |
| Potential for (Evidence of) research funding | | | | | | |
| Potential for (Evidence of) collaboration | | | | | | |
| Fit with department's priorities | | | | | | |
| Ability to make positive contribution to department's climate | | | | | | |
| Potential (Demonstrated ability) to attract and supervise graduate students | | | | | | |
| Potential (Demonstrated ability) to teach and supervise undergraduates | | | | | | |
| Potential (Demonstrated ability) to be a conscientious university community member | | | | | | |





What is U. Sydney Doing?

- › Employer of Choice for Women (8 years in a row, only 18 units in 2011)
 - no gender discrimination or harrassment cases in last 3 years
 - functional strategies for mentoring/networking/development
 - full disclosure of salaries and pay gaps
 - minimum standards for parental leave & part-time work
- › D'Arcy Task Force for Gender Equity
- › Women in Leadership Development Program
- › Promotion – can now be research-focused or teaching-focused
- › Brown Fellowships and Re-Entry Fellowships (career interruption)
- › Thompson Fellowships (promote/enhance careers of academic women)
- › Visiting Scholar Scheme for Women
- › Faculty Fellowships for childcare at conferences



- › Traditionally very few advertised part-time positions in astronomy
 - an experiment: how much human capital are we losing?
 - CAASTRO policy: all positions must be offered with part-time option

“The appointment will be for four years. CAASTRO supports a flexible working environment; for Australian citizens or permanent residents, this opportunity is available as either a full-time or part-time position. Due to visa restrictions, international applicants can be considered only on a full-time basis.”
 - first 12 postdoc/research positions: two taken up part-time
 - needs flexible plan & budget, since need to rescope after part-time hire
- › Consider gender equity & pay gaps when offering / deciding on salary level
- › Demand that core meetings take place 10am-2pm (and finish on time!)
- › School programmes targeting girls in science
- › Formal mentoring programme for early-career researchers
- › Nomination of students/ECRs for prizes & awards (“imposter syndrome” ...)



What Can You Do? (I)

- › Speak up! Make a vocal contribution of substance in order to be noticed, heard, acknowledged and appreciated
- › Ask! If you want something, you will not get it without asking
- › Find suitable mentors! Seek out senior members who can be your cheer squad (both men and women)
- › Be a mentor! Your experience & support is valuable to others
- › Know when to say no – goal is to be respected, not liked
- › Recognise when you are being handed a task that will not benefit your career – **PINK** tasks
- › Be aware of personal biases
- › Stay informed - mailing lists, policies, studies & papers, workshops
 - AASWOMEN, WiSeNet, sciencewomen & scienceprofessor blogs



- › Try not to cut other people off when they are speaking
- › Scrutinise gender balance at all conferences / committees / events
- › Use first or last names in consistent way for both women & men
- › Welcome kids in the workplace if feasible, espec. in school holidays
- › Check adjectives used in reference letters before sending
 - Madera (2009): “women described as more communal & less agentic than men ... [This has] a negative relationship w hiring decisions in academia”
 - Communal: kind, warm, tactful, nurturing, agreeable, caring, helpful
 - Agentic: assertive, confident, ambitious, independent, outspoken, daring
- › Downweight reference letters that provide extraneous info
 - Stewart (2011): “it’s amazing how much she’s accomplished”; “it appears her health is stable”; “she is close to my wife”



What Can Men Do? (I)

“What Can Men Do To Help Women Succeed in Astronomy?”

(<http://www.aas.org/cswa/Jan11/townhall.html>)

- › If a woman makes a good point during a discussion, acknowledge it! If a woman is not being allowed to speak, tell others to shut up & listen
- › Accept & insist that diversity on scientific staff and in speaker lists is a key contribution to scientific excellence, not social engineering
- › Train to be repulsed by male/female ratio >2 in departments/meetings
- › Ensure all search committees are following good hiring procedures
- › Make sure family friendly policies are in place in your institution, even if you are single and have no children
- › Become aware of your own biases. Attend training sessions on diversity & bias even if you think you, your group, and your department has no problem(s)



What Can Men Do? (II)

“What Can Men Do To Help Women Succeed in Astronomy?”

(<http://www.aas.org/cswa/Jan11/townhall.html>)

- › Never comment on a woman's appearance in a professional context
- › Never refer to women as 'girls'
- › Don't refer to a woman scientist/student as 'the woman'? Would you refer to a foreign national as 'the foreigner'?
- › Don't tell jokes about women (is it still funny w an ethnic punchline?)
- › If going out for a drink, ensure your female colleagues are invited
- › At conferences, introduce your female postdoc/student to your colleagues by telling them what project she is working on
- › Do not single out the one woman in your group to organise telecons, take minutes or make the calendar for meetings. Woman ≠ secretary!



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Mattel has figured it out ...

