

Australian Science Research Leadership

Observations ... through a gender lens

Jo Ward Athena SWAN Academic Lead

My Key Messages

- **Research Leadership – it is changing and so are the skills required?**
- **Many young researchers, especially female, feeling overwhelmed with all the development / training opportunities.**
- **Need to better communicate pathways to research leadership – there are many options!**
- **Need to grow the pipeline of senior female research leaders.**
- **One size does not fit all.**

The Future of R&D Leadership – it is changing!!!

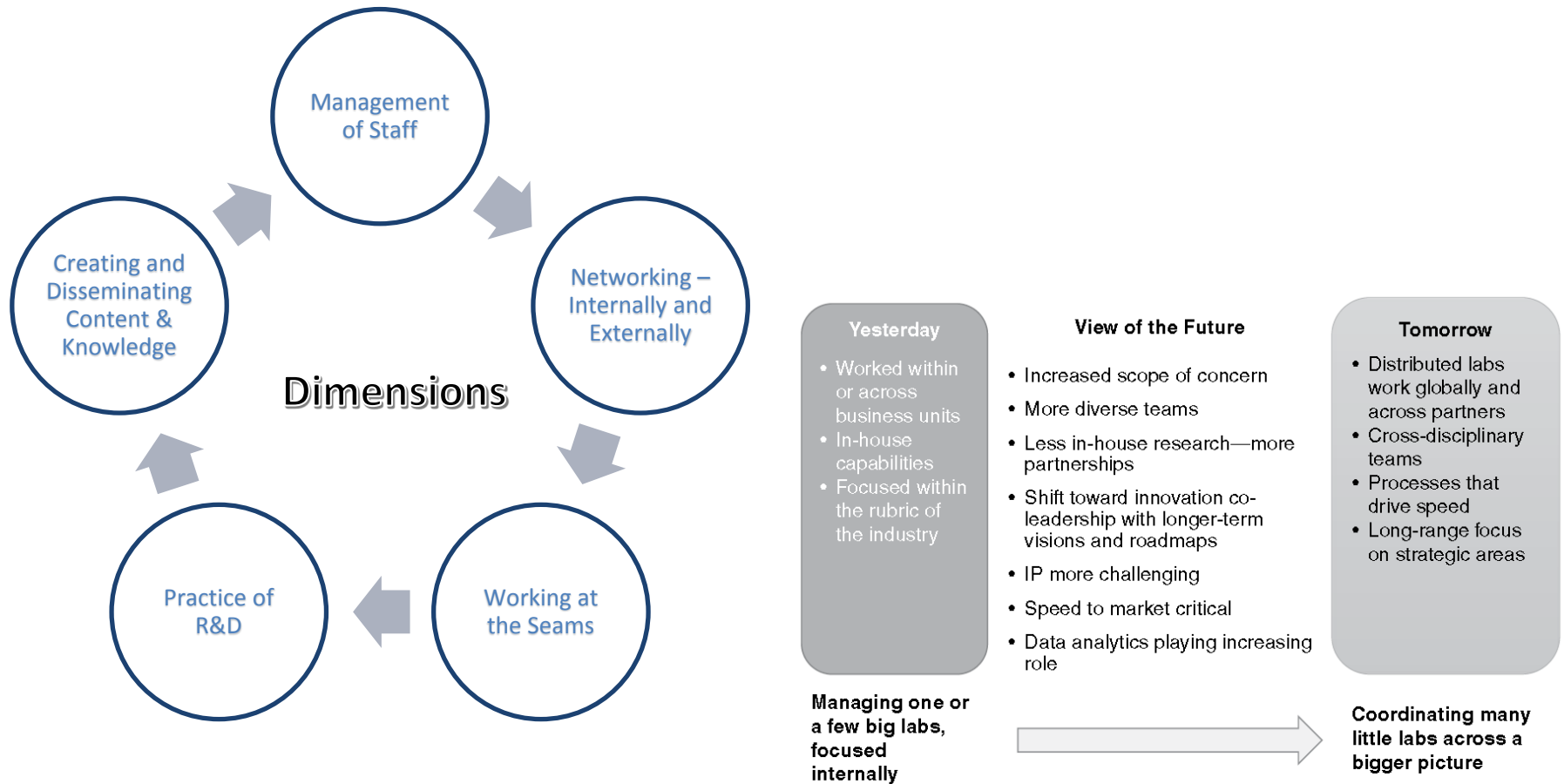


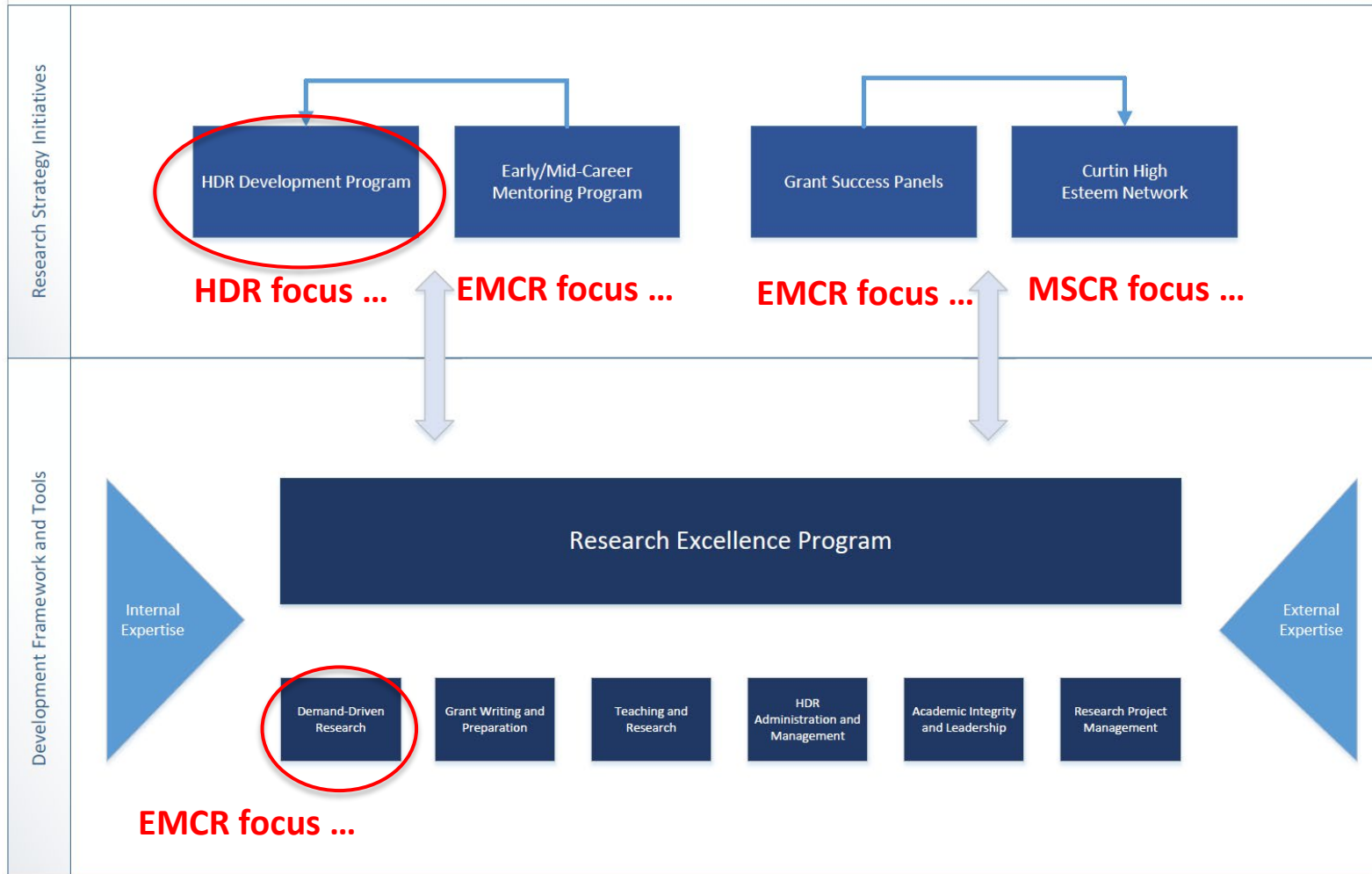
FIGURE 1. Trends: The Practice of R&D

What's expected of research leaders

- Research excellence and impact on a national and international scale – distributed activity.
- Industry engagement – balancing demand and researcher driven research - place on the spectrum.
- Integration of R&D, innovation and commercialisation.
- Assimilation and communication of knowledge and outcomes in this digital age.
- Staff management at a time when the workforce is changing – multidisciplinary teams, imperative to improve gender balance.
- More about this later

Pathway to research leadership - a skills development model

Supporting Research at Curtin





Curtin University

Demand-Driven Research

Curtin Research Excellence Program

July – August 2018

Throughout June to August 2018 the Research Office at Curtin (ROC) will facilitate development sessions for researchers on the theme of **Demand-Driven Research**.

ROC will coordinate six keynote sessions and encourages all areas that specialise in, or are involved in Demand Driven Research to run complimentary sessions in their areas of expertise throughout this period.

ROC will also support attendees to reflect on and articulate learning outcomes towards their career development.

For activity coordination assistance please contact Katie Flanagan on x4248 or katie.flanagan@curtin.edu.au

Date	Topic	Details	Registration
Tuesday 26 June 2018 <i>9am - 1:30pm</i>	Engaging with Industry for Impact	This session will provide an overview of current commercial assessment frameworks, tips on selecting commercial partners and pitching to a commercial audience.	REGISTER
Wednesday 11 July 2018 <i>10am - 12noon</i>	What is Demand-Driven Research?	What constitutes demand-driven research? An introduction to key components and considerations.	REGISTER
Thursday 26 July 2018 <i>1pm - 3pm</i>	Demand-Driven Research Case Studies	Presentations of case studies from: ARC Linkage, CRC/CRCP, Contract Research, ITRC/H, Industry PhD programs and Commercialisation examples.	REGISTER
Wednesday 8 August 2018 <i>12noon - 2pm</i>	Demand-Driven Research for Early – Mid Career Researchers	This session will provide information for early-mid career researchers on moving into, establishing and consolidating a career trajectory in demand-driven research.	REGISTER
Wednesday 15 August 2018 <i>12noon - 2pm</i>	Building a Demand-Driven Research Track Record	Engagement and impact factors for demand-driven research including public profile, outputs and publications, partnerships and relationship management.	REGISTER
Thursday 30 August 2018 <i>12noon - 2pm</i>	Research Contract Basics for Demand-Driven Research	Covering industry contracts, memoranda of understanding, alliance agreements, non-disclosure agreements and consultancy arrangements.	REGISTER



Curtin University

Higher degree by research: career pathways and training

Curtin offers specific development and training programs across three career pathways. You can design your development pathway by selecting from the training options below, according to the pathway and stage of your candidacy.

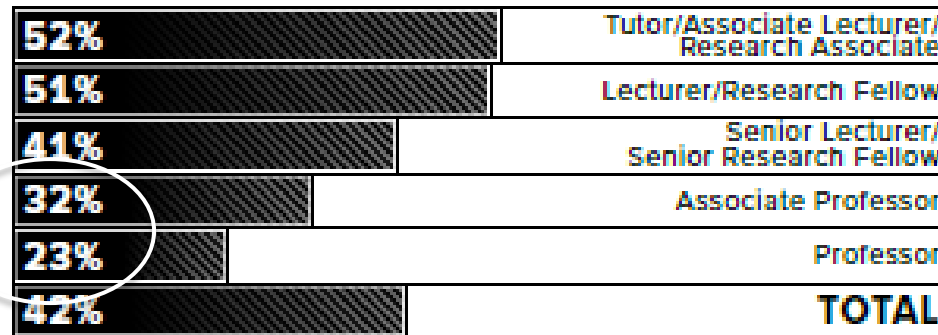
Pathway Skills	Theme	Pre-candidacy		Pre/post confirmation		Pre-submission	
Academic	Academic writing and thesis	Preparing your candidacy proposal	The literature review	Thesis Preparation	Attribution and avoiding plagiarism	Thesis editing and proofing	
	Integrity & ethics	Academic integrity, conduct, ethics and HIT	Copyright and academic integrity				
	Creativity & cognitive ability		Introduction to critical thinking	E-Grad Advance	Advanced critical thinking		
	Research methods	Introduction to methodology & methods	Qualitative data analysis		Research Bazaar		
Professional	Communication, publication & authorship		Publishing & Presenting		Communicating impact		Presentation competitions
	Finance, funding and resources		Intro to research finance & resourcing		Generating research income		
	Engagement and impact		Tutoring and teaching	Internships		E-Grad Engage	
	Research management		Intro to research project management	Data Management	Publons		Research strategy
Transferable	Professional and career development	Mentoring at Curtin		Introduction to networking		Career preparation	
	Teamwork and leadership			Interdisciplinary research	Leading research teams	E-Grad Lead	
	Self & candidature management	Research planning	Time management	Thesis options			
	Personal qualities		Intro to self-reflection and mindfulness		Emotional intelligence		

STEM academic workforce

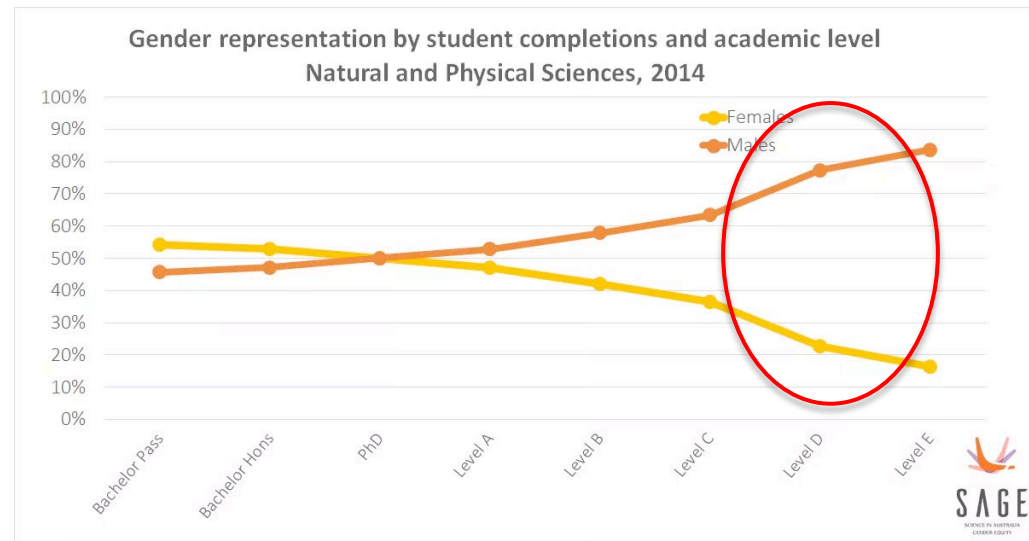
(indicating a shortage of senior female academics)

WORKFORCE IN STEM RESEARCH SECTOR⁹

Proportion of women



Source: Australian Academy of Science: Women in STEM Decadal Plan (2019)



Source: Department of Education and Training, accessed 27 August 2018.

ARC participation and success

ARC: Success Rates by Gender of Project Leader - 2017

	Women			Men		
Scheme	Submit'd	Fund'd	Success rate	Submit'd	Fund'd	Success rate
COE	4	2	50%	15	7	46.7%
Laureate	26	4	15.4%	86	13	15.1%
ITR Hubs	2	0	0%	3	3	100%
ITTC	5	1	20%	21	8	38.1%
LIEF	29	11	37.9%	150	37	24.7%
FF	107	41	38.3%	186	49	26.3%
DECRA	435	77	17.1%	760	123	16.2%

Source: <https://www.arc.gov.au/policies-strategies/strategy/gender-snapshot-grants-commencing-2017>

ARC: Success Rates by Gender of Project Leader - 2016

	Women			Men		
Scheme	Submit'd	Fund'd	Success rate	Submit'd	Fund'd	Success rate
COE						
Laureate	20	3	15.0%	104	13	12.5%
ITR Hubs						
ITTC	5	1	20%	22	5	22.7%
LIEF	23	6	26.1%	150	48	32%
FF	97	26	26.8%	226	74	32.7%
DECRA	402	71	17.7%	813	129	15.9%

Source: <https://www.arc.gov.au/policies-strategies/strategy/gender-snapshot-grants-commencing-2016>

ARC: Application and Success Rates by Gender of Project Leader – 2017

Scheme	Submitted (%F)	Funded (%F)
COE	19 (21%)	9 (22%)
Laureate	112 (23%)	17 (24%)
ITR Hubs	5 (0%)	3 (100%)
ITTC	26 (19%)	9 (11%)
LIEF	179 (16%)	48 (23%)
FF	293 (36.5%)	90 (45.6%)
DECRA	1195 (36.4%)	200 (33.5%)

ALD/E NPS: 15-25% F

ALC NPS: 38% F

ALB NPS: 42% F

Gendered observations

Is there gender inequity ... **YES!!**

- In senior academic levels: ALD/E (15-25% F)
- Not a quality issue it's about participation
 - Women largely as (or more) successful as Men but submit fewer applications.
 - In elite fellowships: Laureate Fellows (17F of 50 Fellows over 2017-19)
 - In major research leadership positions: (7F of 34 ARC COE Centre Directors (2011-17))

Does it matter ... **YES!!**

- Research* says yes ... impact on staff and student recruitment, on what we research, on culture and decision making, & on creativity

What can/should we do ... **actively promote female research leadership!!**

- Don't rely on organic change – drive change where needed.
- Create a research culture that values gender diversity.
- Need male champions and female role models.

* https://www.researchgate.net/publication/29467500_Gender_Equity_in_Universities_Should_we_be_worried

Focus on increasing participation and success of women, especially in STEM(M)

- **SAGE Athena SWAN** - To improve gender equity in STEMM in the Australian higher education and research sector by building a sustainable and adaptable Athena SWAN model for Australia.
- **ARC** - ARC Gender Equality Action Plan 2018*
- **NHMRC** - NHMRC Gender Equality Strategy 2018 **
- **STEM Academies** – Women in STEM Decadal Plan ***

* <https://www.arc.gov.au/policies-strategies/strategy/arc-gender-equality-action-plan-2018>

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<https://www.bing.com/search?q=NHMRC%E2%80%99s+Gender+Equality+Strategy2018%E2%80%932021&src=IE-SearchBox&FORM=IESR3S>

*** <https://www.science.org.au/support/analysis/decadal-plans-science/women-in-stem-decadal-plan>



Research Trajectory – Senior Female Leadership

- **A cohort based program over 10 months**
 - *26 female researchers nominated by PVC and Dean R (mostly ALD/E)*
- **F-2-f pre-interview – to guide programming. Issues:**
 - *What is a senior research leader? Vastly different views.*
 - *Is it important to build a team? What will your legacy be?*
 - *Challenges and development.*
- **Workshops, masterclasses and online**
 - **[Women in Research](https://www.womeninresearch.org.au/)**
(<https://www.womeninresearch.org.au/>)
Sharon K. Parker - Kathleen Fitzpatrick Australian Research Council Laureate Fellow



What do they want:

- **Research leadership:** *Is it changing? How? Leadership pathways – specific skills required.*
- **Leading Self:** *Knowing self (branding). Being seen and heard – peers, higher-ups and externally. Strategic networking. Balance – home, T, R, self.*
- **Building teams:** *Strategically growing critical mass (staff and students) on limited funding. Team building skills. Pathways to collaboration – building a multi-disciplinary team. **Leading a male dominated team.** Difficult colleagues / difficult conversations. How inclusive should a leader be? **Shifting the focus from me to the team.***
- **Leading outwards:** *Engaging industry: starting the conversation; communicating my research to an industry or other discipline audience. **Building an industry proposal.** Business development skills. Leveraging demand-driven research to grow an academic record.*

Red: likely female focussed issues

Orange: relates back to being seen/heard

Questions to consider ...

- 1. How can you, in your role, help to grow the pipeline of senior female research leaders in your faculty?**
- 2. Are there structural barriers that impede success of female researchers in your institution and (if yes) how can they be removed?**

Thank you