

The Importance of Women in Science

Making Waves

FLORIDA ATLANTIC UNIVERSITY



AWIS
ASSOCIATION FOR WOMEN IN SCIENCE



FAU



The Importance of Women in Science

Panel Presentation by the Association for
Women in Science (AWIS) - FAU Chapter

FLORIDA ATLANTIC UNIVERSITY



Panelists

- Julie C. Servoss, M.D., M.P.H. – AWIS-FAU Co-Chair & Moderator
- Emmanuelle Tognoli, Ph.D. – AWIS-FAU Secretary
- Lianfen Qian, Ph.D. – AWIS-FAU Treasurer



Objectives

1. Provide an overview of the Association of Women in Science and the chapter here at FAU
2. Recognize the need to increase the number of women in all science related fields
3. Learn key concepts and strategies to be successful women scientists and leaders



The Association for Women in Science

- Founded in 1971, AWIS is the largest multi-discipline organization for women in science, technology, engineering and mathematics (STEM)
- AWIS has a vision for women in STEM to be:
 - Compensated fairly and without discrimination
 - Advanced equitably and without bias
 - Exposed to successful role models in leadership positions
 - Recognized and respected for their scientific and leadership achievements



AWIS – FAU Chapter

- Mission and goals
 - To promote women in careers in which they are underrepresented, especially in STEM and STEM-related areas
 - To promote diversity amongst faculty, staff and students with respect to race, gender and ethnic background
 - To investigate funding opportunities and initiate activities to accomplish the above goals at FAU



AWIS – FAU Chapter

- Major initiative
 - Collaboration with ADVANCE FAU
 - The goal of the National Science Foundation’s (NSF) ADVANCE program is to increase the representation and advancement of women and underrepresented minorities (URMs) in academic science and engineering careers, thereby developing a more diverse science and engineering workforce.
 - <http://www.fau.edu/provost/advance/index.php>



5 Reasons Why We Need More Women in STEM and STEM-Related Fields

1. A larger talent pool improves the quality of the STEM workforce
2. Diversity brings new perspectives; diverse teams are better, more innovative
3. More women in STEM is good for the economy
4. Increased women participating in STEM fields offers improved economic stability
5. Success stories provide inspiration for future generations of women and men

Reference: <https://www.bestcomputersciencedegrees.com/lists/5-reasons-why-we-need-more-women-in-stem-fields/>. Accessed 03/13/19.

Quick Facts

600+
tenures, tenure-track faculty at FAU

270+
non-tenure track faculty at FAU

44%
women faculty in all disciplines

21%
women faculty in STEM disciplines

39.5%
women tenure-track faculty in all disciplines

16.8%
women tenure-track faculty in STEM discipline

Slide courtesy of Evonne Rezler, PhD, FAU ADVANCE/AWIS Reception, 09/28/17.

FAU faculty data provided by FAU's IEA – 2015-16

Quick Facts

27.3%
female assistant professors in STEM
at FAU

42.8%
female assistant professors in STEM,
national average

14.3%
female associate professors in STEM
at FAU

34.0%
female associate professors in STEM,
national average

13.5%
female full professors in STEM
at FAU

20.8%
female full professors in STEM,
national average

Slide courtesy of Evonne Rezler, PhD, FAU ADVANCE/AWIS Reception, 09/28/17.

FAU faculty data provided by FAU's IEA – 2015-16

National averages: Falkenheim, J., and Hale, K., "Women, Minorities, and Persons with Disabilities in Science and Engineering", National Center for Science and Engineering Statistics and Directorate for Social, Behavioral and Economic Sciences, 2015, National Science Foundation: Arlington, VA.



Quick Facts 2018 data

	Women	Men
Professor	62	163
Associate Professor	103	119
Assistant Professor	107	99
Instructor	126	80
Lecturer	2	0
Other	18	14
TOTAL	418	475

FAU faculty data provided by FAU's IEA – 2018



Key concepts and strategies to becoming successful women scientists and leaders

- Dr. Emmanuelle Tognoli

The Matilda Effect:

under-recognition of women's scientific contributions.

“the sexist nature of much of the women's systematic under-recognition should be acknowledged, noted and even high- lighted in the sociology of knowledge or science”

Margaret Rossiter, 1993. <https://www.jstor.org/stable/285482>

From missed work recognition to lost leadership opportunities



Mileva Marić

Albert Einstein,
Nobel awardee,
1921

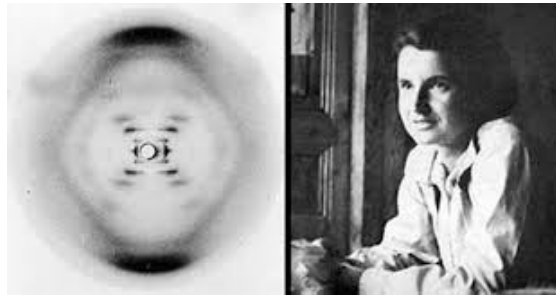
<https://arxiv.org/ftp/arxiv/papers/1503/1503.08020.pdf>



Lise Meitner

Otto Hahn,
Nobel
awardee,
1945

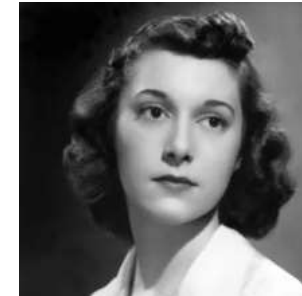
<https://www.aps.org/publications/apsnews/200712/physics/history.cfm>



Rosalind Franklin

Crick & Watson, Nobel
awardees, 1962

<https://www.theguardian.com/science/2015/jun/23/sexism-in-science-did-watson-and-crick-really-steal-rosalind-franklins-data>



Betty Shannon Claude Shannon

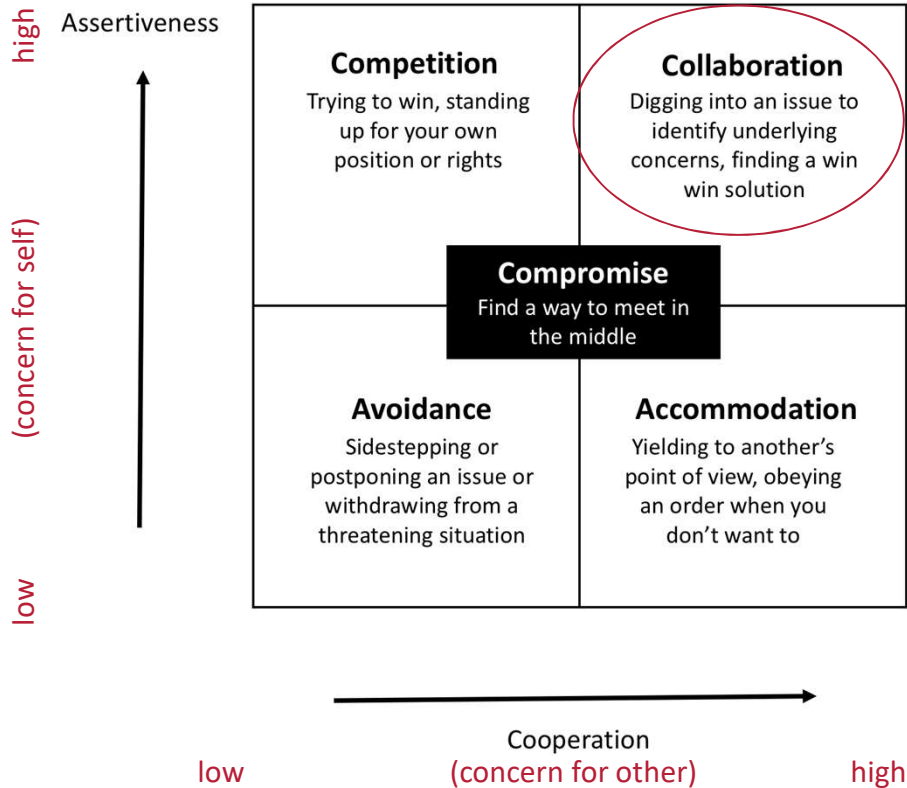
<https://blogs.scientificamerican.com/voices/betty-shannon-unsung-mathematical-genius/>



Marthe Gautier

Jerome
Lejeune
<https://www.sciencemag.org/news/2014/02/after-more-50-years-dispute-over-down-syndrome-discovery>

Addressing conflicts arising about scientific work recognition



↑ “Nice” is not the stuff for workplace

→ break gridlocks with problem-oriented conflict resolution (this particular here and now) and by gaining knowledge and support from women’s network (the big picture)

Kenneth Thomas and Ralph Kilmann 1974



Key concepts and strategies to becoming successful women scientists and leaders

- Dr. Lianfen Qian

Smart Professional Networking

References:

<https://www.goodcall.com/career/professional-network/>

<https://www.thebalancecareers.com/building-growing-and-maintaining-a-professional-network-525834>

<https://www.social-hire.com/blog/candidate/6-ways-your-professional-network-can-help-you/>

Ways to Build Professional Networking

- Social media
- Real world

Maximize your personal network:

- Find a mentor
- Family
- Friends
- Alma mater
- Former teachers and classmates
- Former coworkers
- Community organizations via volunteering





What can professional network help?

- Information about open position/research
- Recommendations
- Give you advice and professional tips and feedbacks that will help you reach your goals
- Create a position for you
- Build your experience by showing trust on you
- Learn skills from your network
- Can back you up when things go wrong



Cultivate Professional Network

Meet new people

- Prepared: treat it as an interview
- Attend professional meetings and seminars
- Personal communications
 - call is better than email
- Listen more than you talk: show interest
- Be sincere
- Say thank you always
- **Stay in touch: keep network alive**



Key concepts and strategies to becoming successful women scientists and leaders

- Dr. Julie Servoss - tips on leadership
 1. Be honest
 2. Find strength in commonalities → allies, collaborators, mentors & sponsors
 3. Keep an open mind. Come to understand a situation by asking better questions
 4. Know thyself – understand your strengths and vulnerabilities
 5. Practice talking about your strengths and avoid apologizing too much
 6. Interpersonal skills and emotional intelligence are essential
 7. Learn to act confident and real confidence will follow
 8. Employ positive language and an authoritative voice
 9. Use your voice
 10. Develop your own leadership style

References: <https://www.forbes.com/sites/christinavuleta/2018/01/31/eight-women-leaders-on-their-mentors-best-advice/#47b8e35b4c47>; <https://www.inc.com/susan-steinbrecher/23-powerful-tips-to-help-women-leaders-succeed.html>; ; <https://www.sciencemag.org/careers/2013/09/leadership-tips-women>. Accessed 03/13/19.



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Question & Answer Session

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Thank you!

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