

Women in Medical & Biological Engineering

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# Surviving in the Academy

Issues and Challenges in Gender (In)Equality  
in Science & Engineering Higher Education

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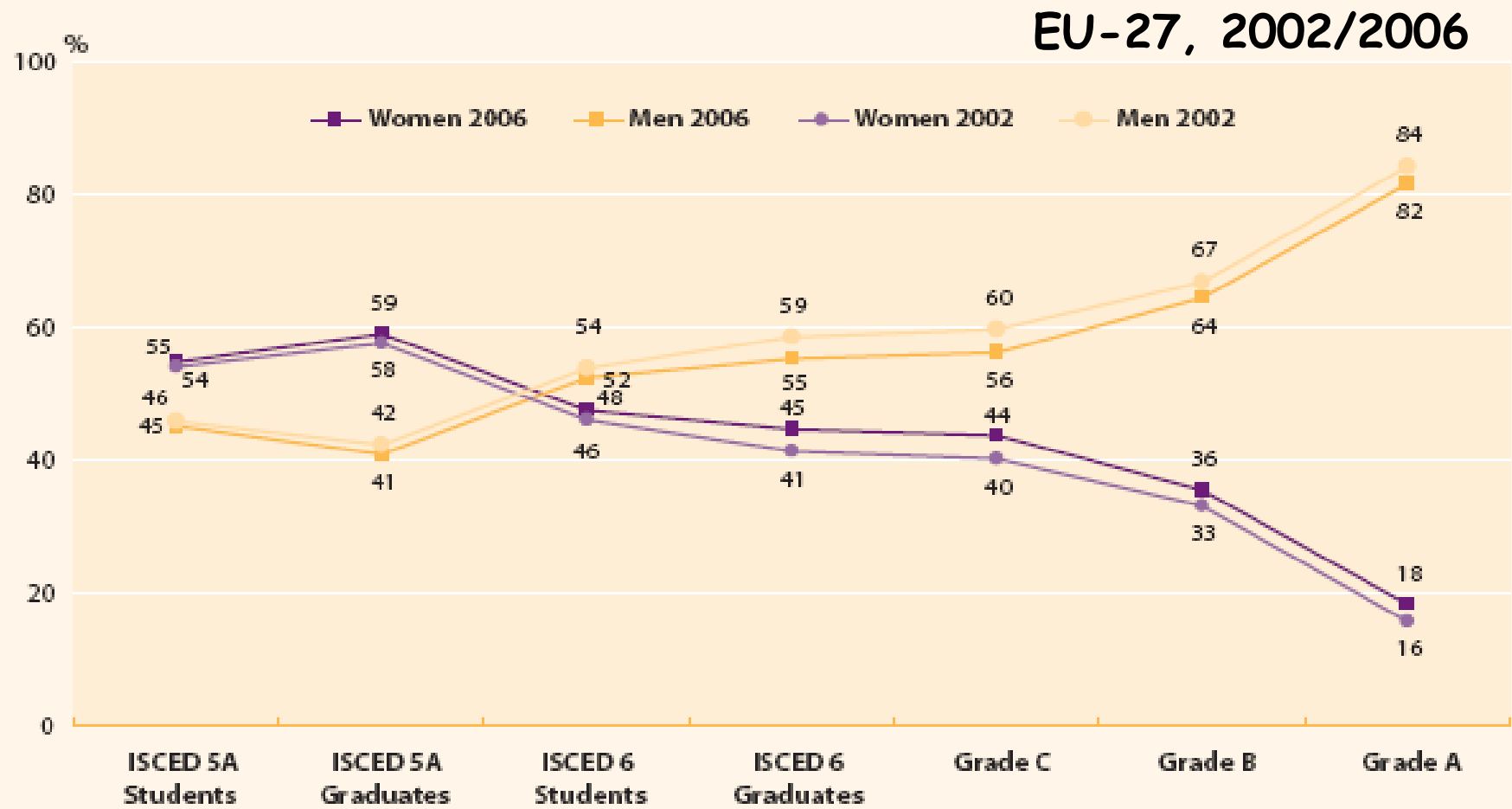
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# She figures 2009 (looks up to 2006)

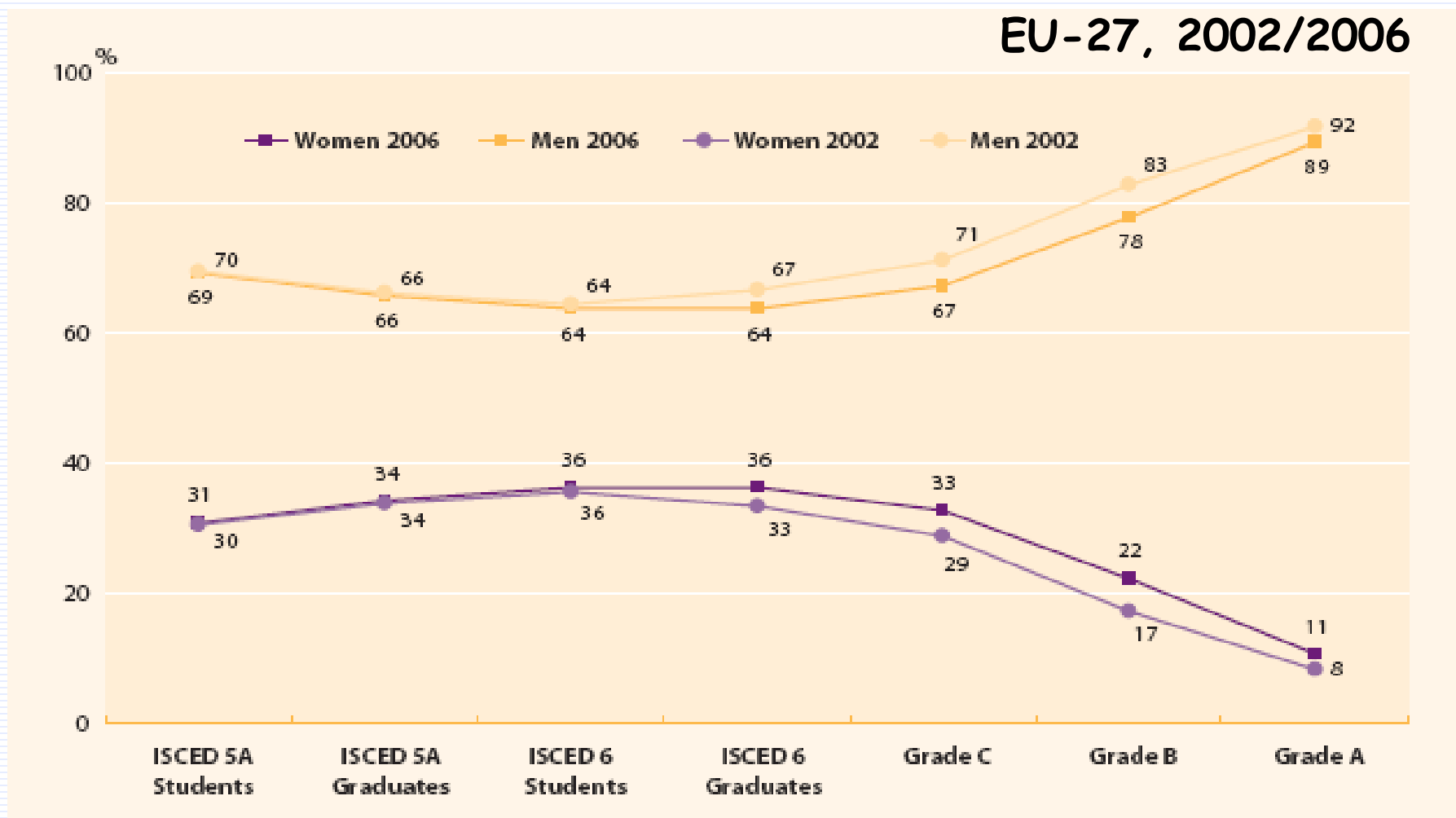
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- women in scientific research remain a minority
- 30% women of all researchers in EU (2006)
- proportion women researchers in EU-27 (2006)
  - ↳ 37% women in Higher Education
  - ↳ 39% women in Government Sector
  - ↳ 19% women in Business Enterprise Sector
- progressive studies over the years show that there is a move towards a more gender-balanced research population

# women/men in academia



# women/men in science & engineering academia



# numbers are not always that clear ...

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- numbers show that universities contain gendered hierarchies of power
  - ↳ most men with power and most women without
  
- however, literature reports a growing view among academic policy makers & academics that
  - gender discrimination is not an issue in higher education !

# senior women academics say...

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qualitative study amongst UK university senior women academics

- older women were more sensitive to the subtle homosocial culture, attitudes and norms in the university
- younger women relied more on a meritocratic approach to their careers, seemingly less aware of the institutional gendered power relations
- neither group showed signs of **collective working** or **networking** in the interests of themselves or women in general

Source: *S. Ledwith and S. Manfredi, Balancing Gender in Higher Education A Study of the Experience of Senior Women in a 'New' UK University, The European Journal of Women's Studies , vol. 7, 7-33, 2000*

# design for women vs. women mentoring

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Nebraska University 1999-2003, Project Muse

↳ Empowering Women for Life-Long Success  
through Computer Expertise

■ initially, with the aim to empower women undergraduates  
by teaching them technology in single-sex environments

■ findings:

↳ empowerment came from  
**peer-tutoring** and informal workshops

↳ impact came from a computer-lab,  
where students would become experts and teach peers  
⇒ the lab became a place for **socializing**

# men's patriarchal support system

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UK University qualitative research + literature evidence

- men interviewed revealed,  
(but not necessarily openly acknowledged) that
  - ↳ the help, support and encouragement of significant men were crucial elements of their own career progress
- in contrast, within this research group
  - ↳ no woman experienced such opportunity  
(but some reverse cases were reported)

Source: *B. Bagilhole ,J. Goode, The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers : A Feminist Investigation. European Journal of Women's Studies , vol. 8, 161, 2001*



# men's patriarchal support system

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## findings:

1. "the skills needed for a successful academic career can be exposed as part of a **socialization process** that some men and virtually no women are allowed to participate in"
2. women presume that someone is going to speak on their behalf, their good work will be recognized and rewarded (they believe in true merit, not self- advertisement)

Source: *B. Bagilhole ,J. Goode, The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers: A Feminist Investigation. European Journal of Women's Studies , vol. 8, 161, 2001*

# men's patriarchal support system

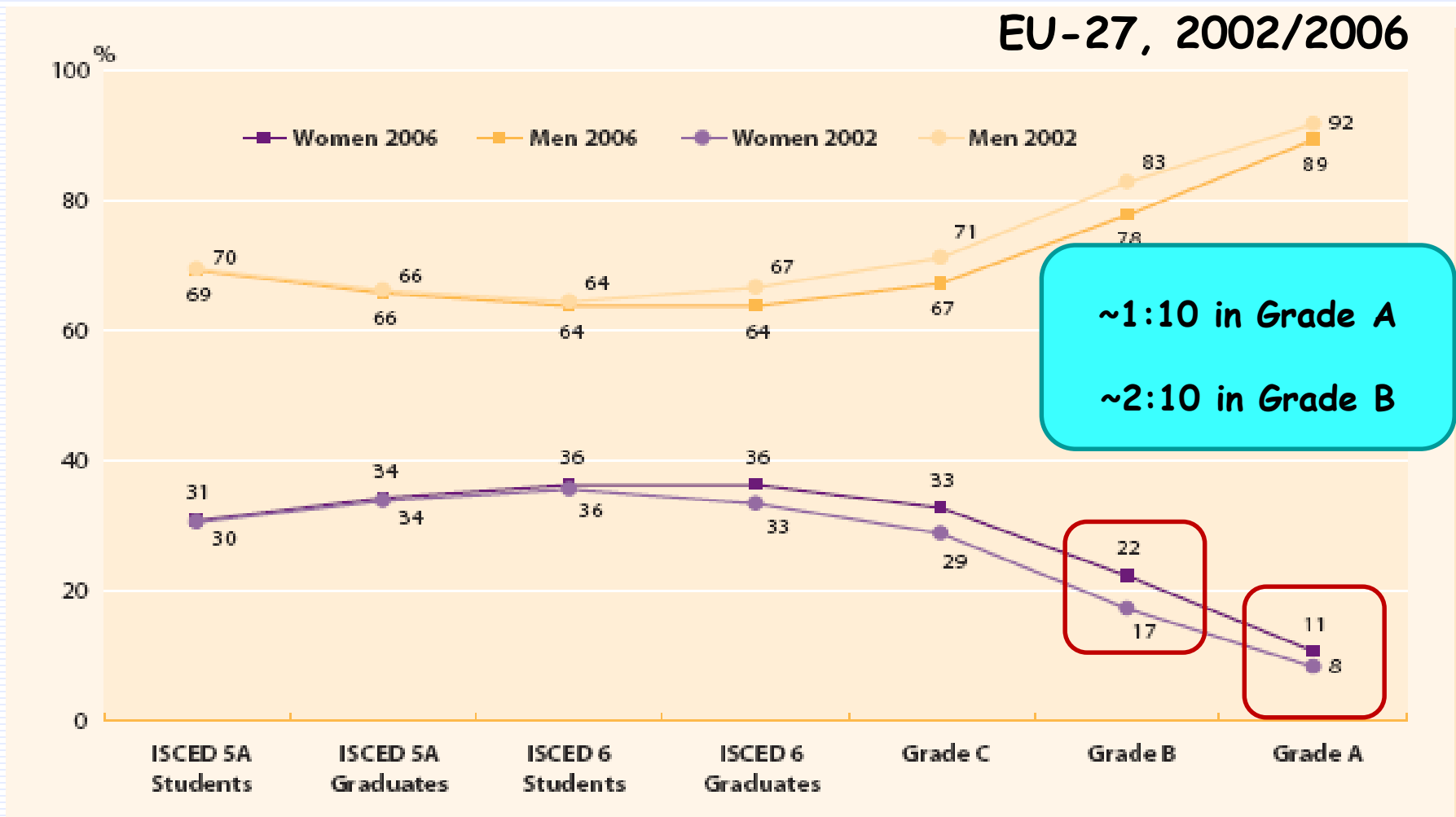
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## findings:

3. the academic profession does not supply adequate support and guidance for women
4. if and when women receive useful advice and mentoring, usually receive them from other women
  - ↳ risk of the small minority of senior women becoming overburdened

Source: *B. Bagilhole ,J. Goode, The Contradiction of the Myth of Individual Merit, and the Reality of a Patriarchal Support System in Academic Careers : A Feminist Investigation. European Journal of Women's Studies , vol. 8, 161, 2001*

# women/men in science & engineering academia



so, can women in academia still hope for  
a transition from surviving to thriving ?

# quantitative study published in 2011

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quantitative study (n=1714) in USA

- contrary to almost published literature, and
- taking into account factors as
  - ↳ tenure, discipline, family status and doctoral cohort,
- women actually have somewhat more collaborators on average than do men

Source: B. Bozeman, M. Gaughan, How do men and women differ in research collaborations? An analysis of the collaborative motives and strategies of academic researchers, *Research Policy*, July 2011

# social media and networking explosion!

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online services for building and reflecting social networks

- Facebook (750M users)
- MySpace, Tagged, Twitter, LinkedIn, ...
- Academia.edu (600K), ResearchGate (400K), ScienceStage, Scispace, BioMedExperts, Epernicus, ...
- somewhat more women than men use social networking
- average age in USA (~48) as compared to UK (~38)

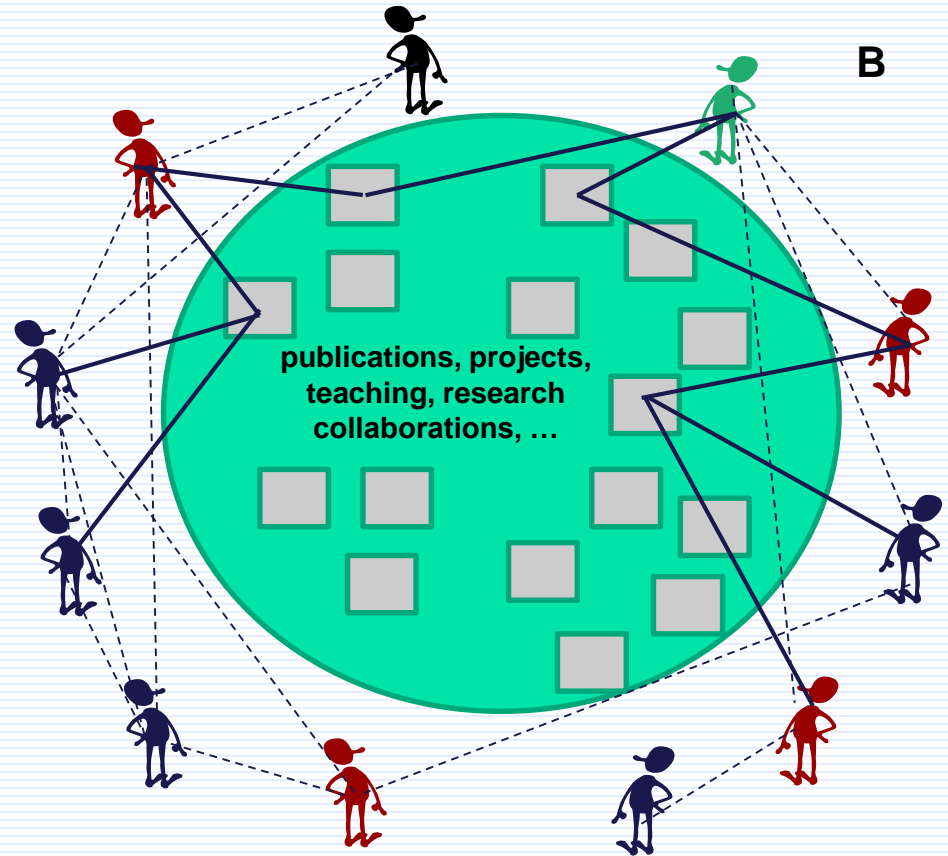
Sources: <http://blog.nielsen.com/nielsenwire/global/led-by-facebook-twitter-global-time-spent-on-social-media-sites-up-82-year-over-year/>

A. Hoffman, *The Social Media Gender Gap*, Bloomberg Businessweek, May 19, 2008

# current academic networks

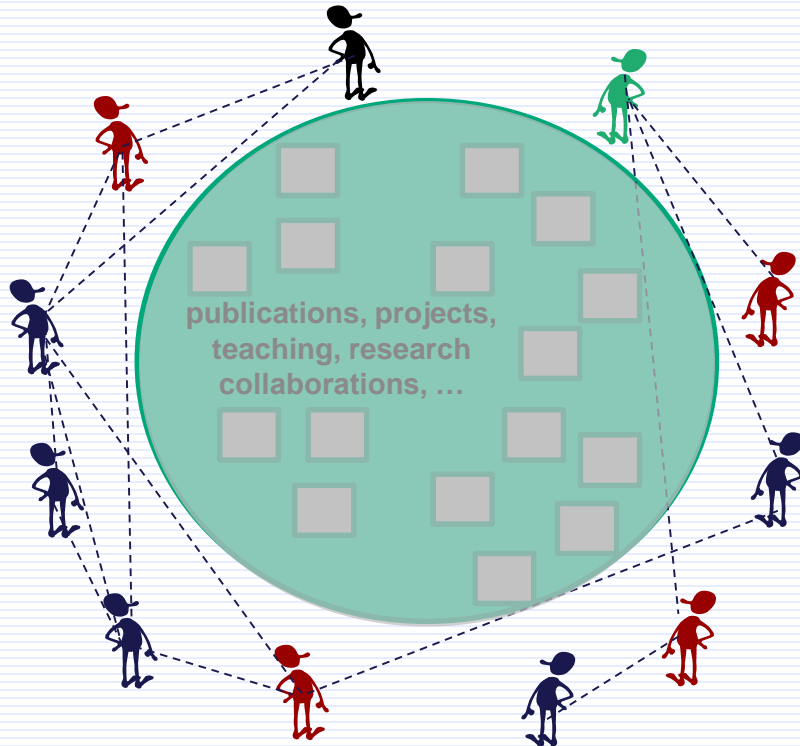
organized around common social objects:

- ↻ research/teaching interests
- ↻ research collaborations
- ↻ published works
- ↻ ...



# women mentoring network?

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what about...

organize the network  
around women's needs  
for mentoring in  
order to survive and  
thrive in academia



# women mentoring network ?

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towards effective and meaningful  
networking & mentoring to empower women in academia

- use on-line social networking services
- focus on women
- involve men
  - ☺ why not keep up with the progress of the 1:10 ratio?
  - ☺ only, the other way around ...
- ↪ focus on women mentoring
- ↪ use semantic technologies to suggest/enrich/enhance meaningful mentoring relationships

just “add women and stir” ?

should ensure that

women's interests,  
women's ways of thinking and acting  
are an integral part  
of the scientific & technological enterprise and  
of the academic environment

**thank you!**

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