

More Women in Informatics Research and Education

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Why should we care?

- Encouraging women to pursue a digital career would benefit
 - the digital industry
 - themselves
 - Europe's economy
- 29 in 1,000 women hold a first degree in ICTs (compared with 95 men)
- 4 in 1,000 women will work in the ICT sector
- Women leave the sector mid-career to a greater extent than men
- Women are more under-represented in managerial and decision-making positions than in other sectors

Why should informatics departments care?

- Google cares...

Google cares!

Made  Code Google

PROJECTS

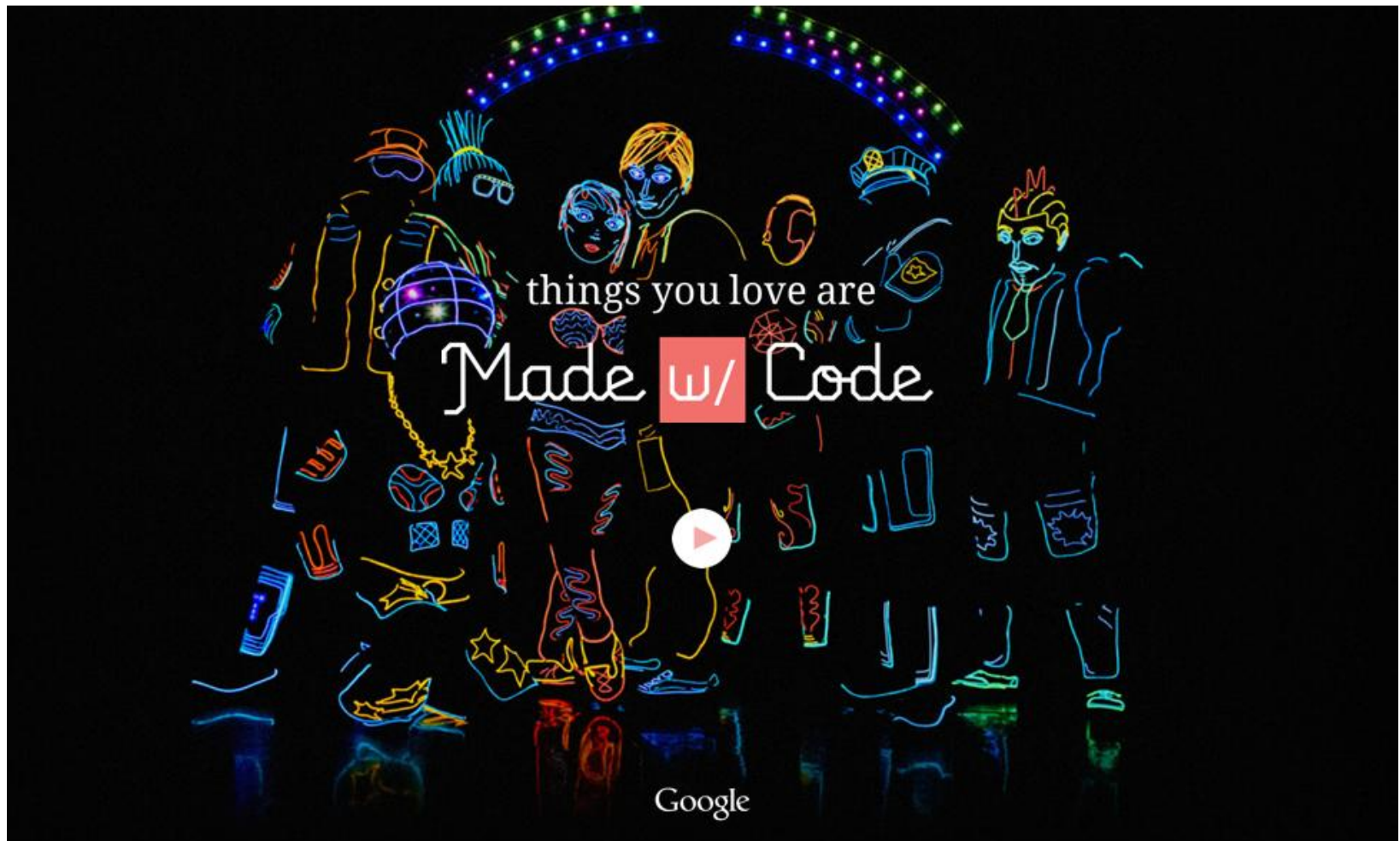
MENTORS

MAKERS

COMMUNITY

EVENTS

RESOURCES

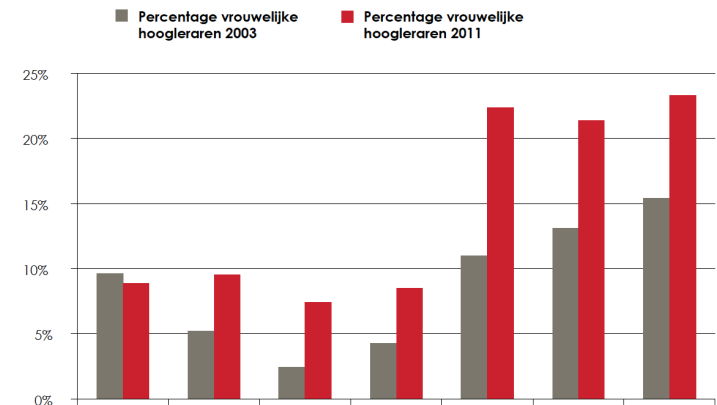
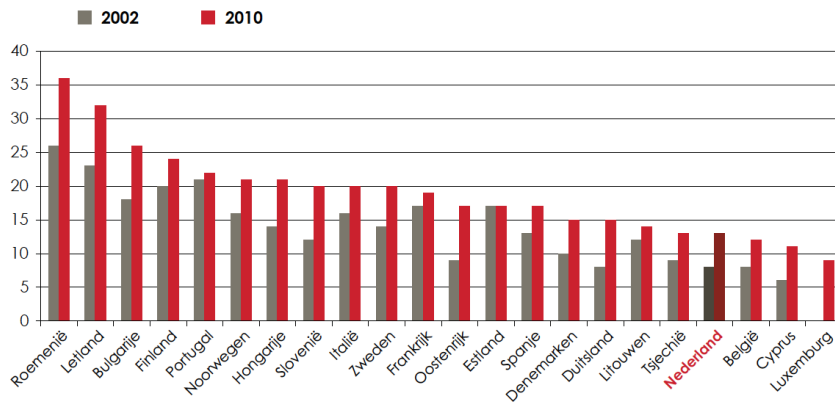
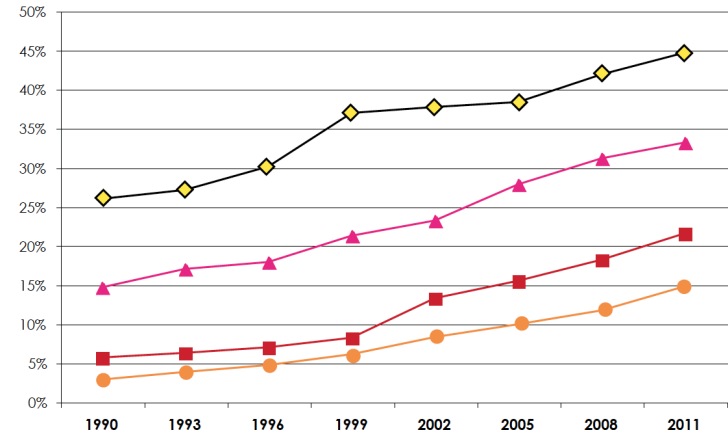
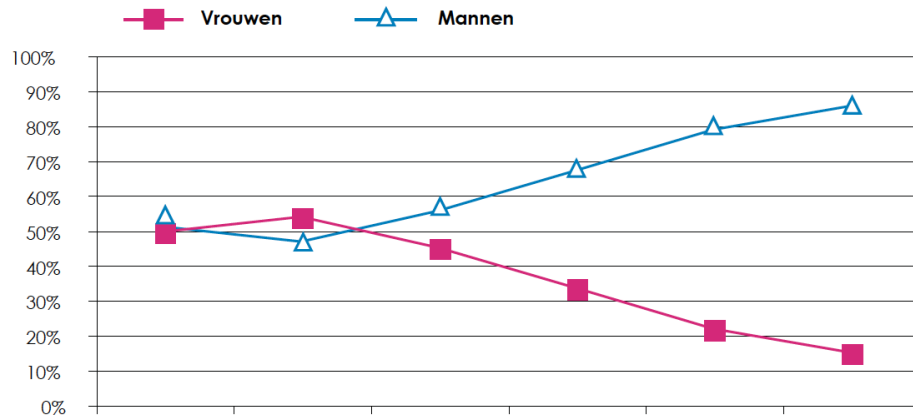


NEWS: MADE WITH CODE IS NOW ON G+ JOIN THE COMMUNITY

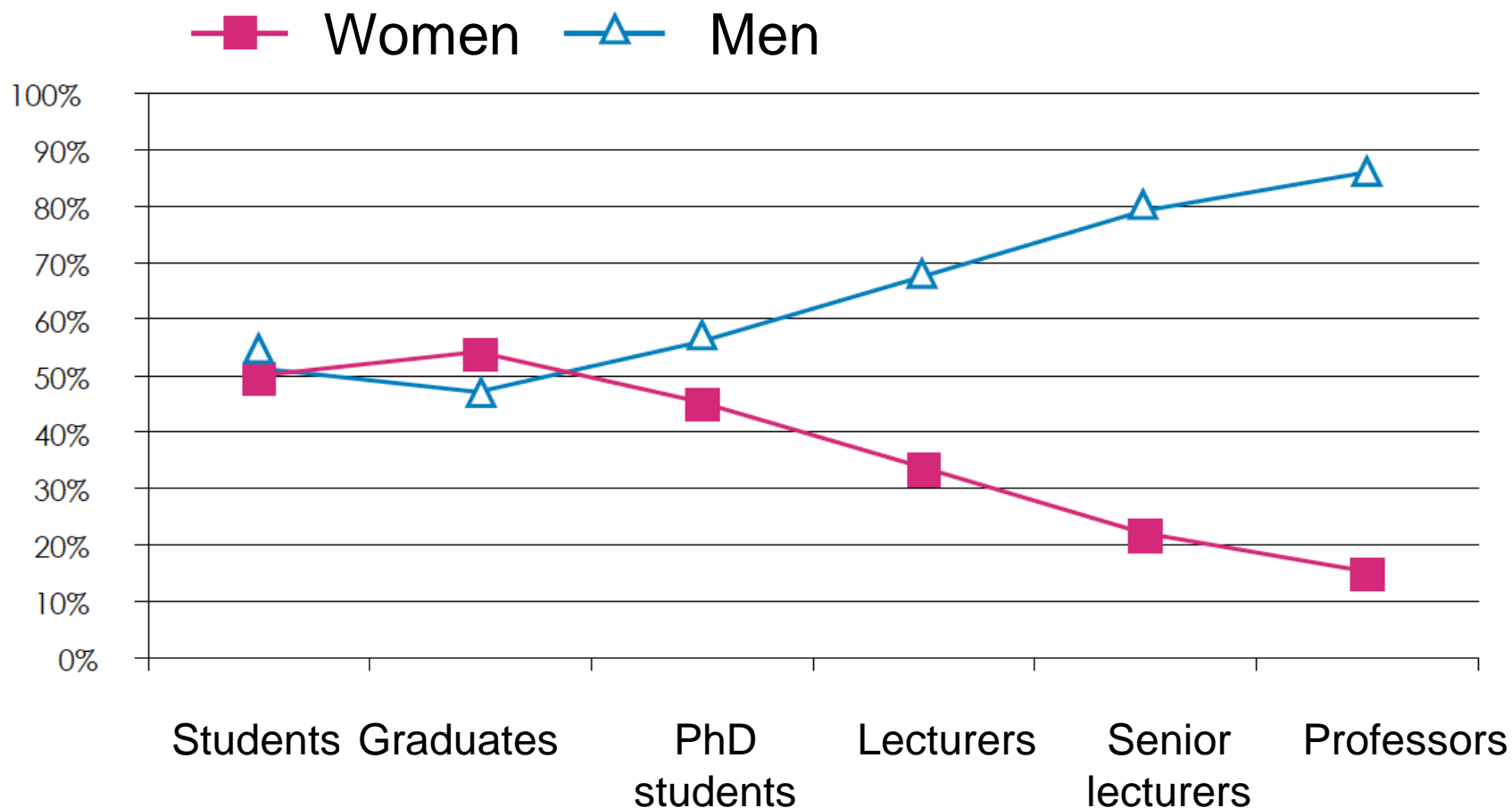
Why should informatics departments care?

- Google cares...
- Diversity gives different perspectives to approaching problems
 - the digital industry
 - themselves
 - Europe's economy
- Cooperative vs competitive style of communication
 - better social cohesion
 - improved dialogue

Can we quantify the problem?



Monitor Women Professors Netherlands 2011



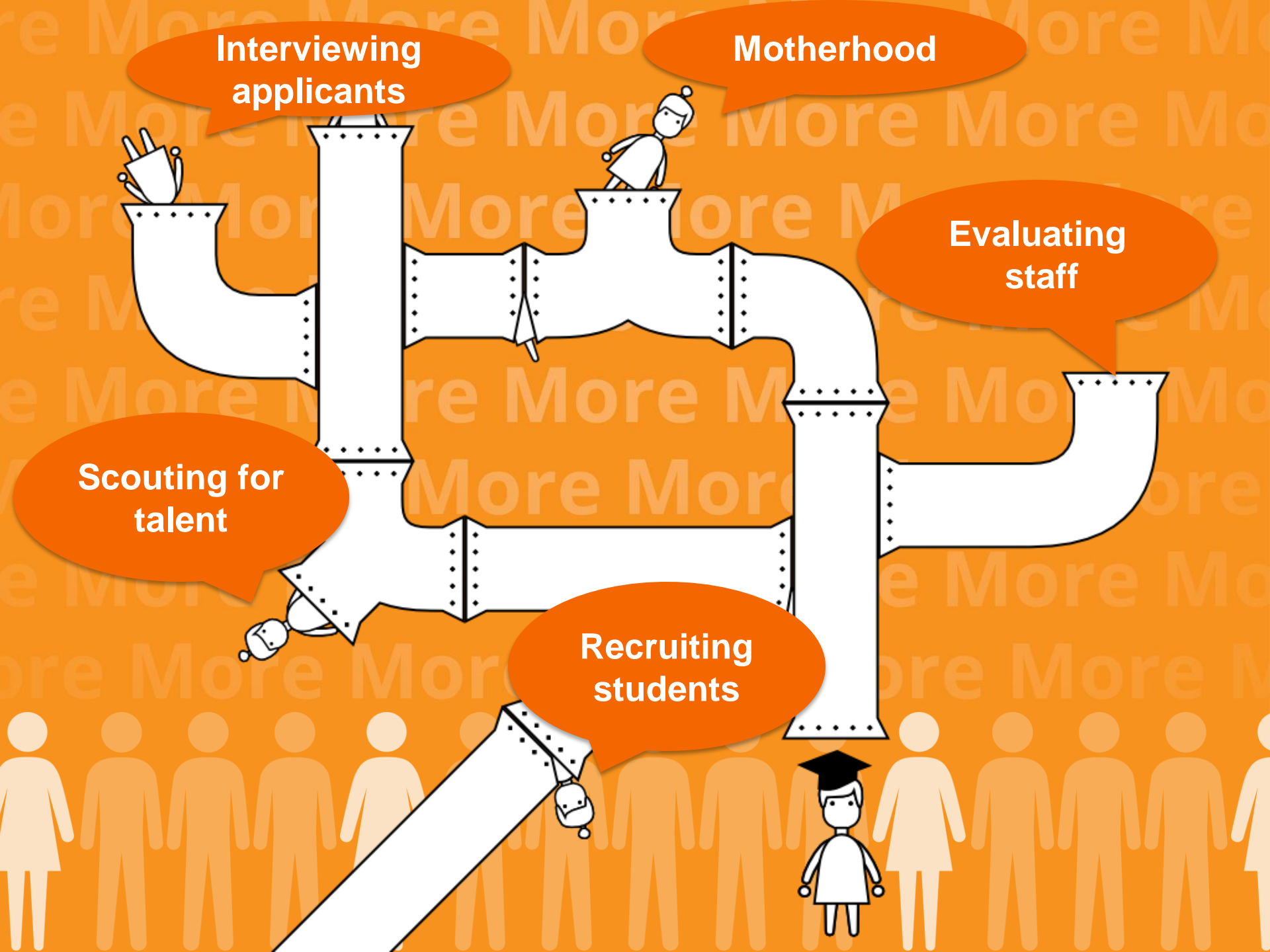
**Interviewing
applicants**

Motherhood

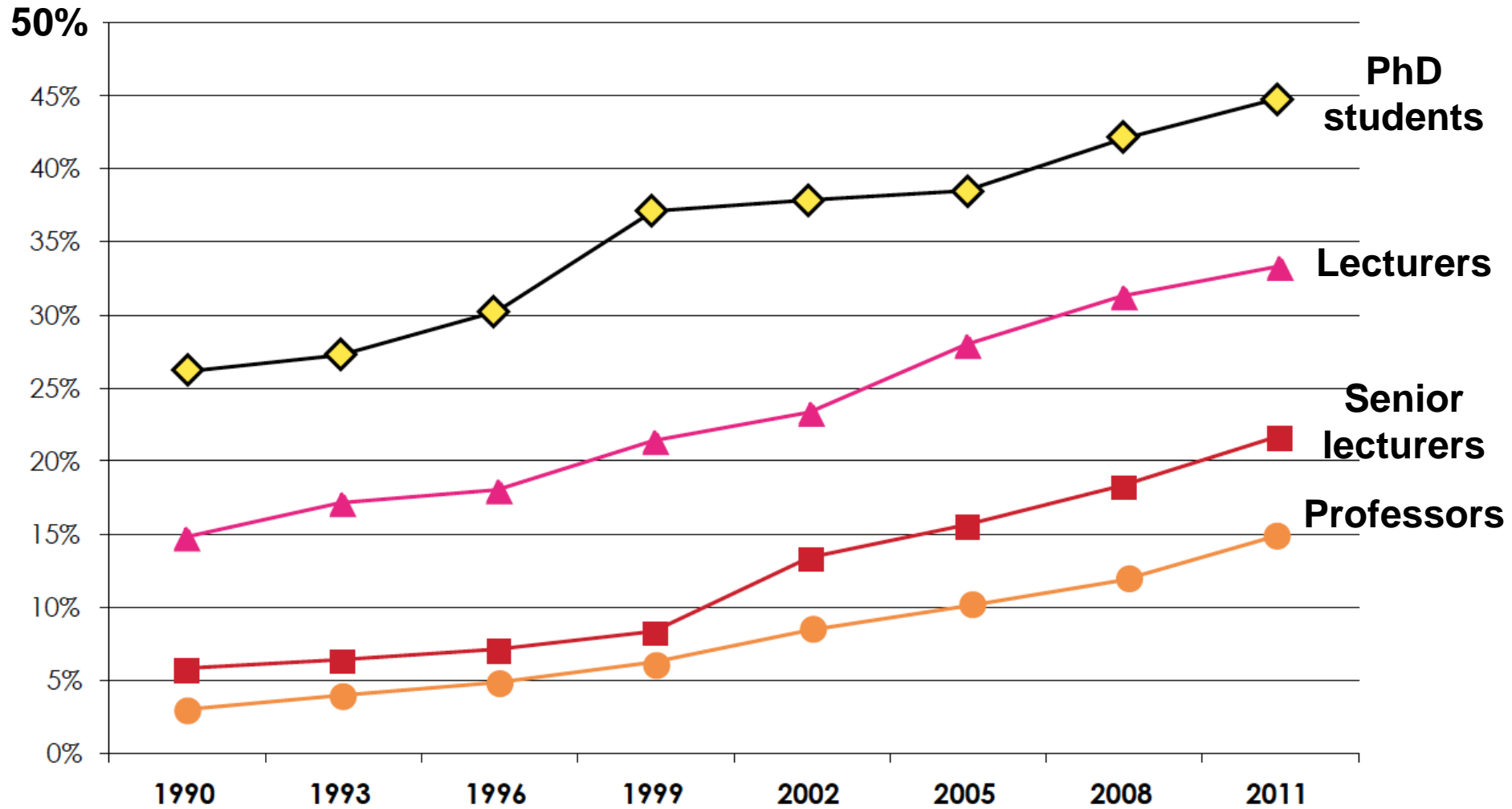
**Evaluating
staff**

**Scouting for
talent**

**Recruiting
students**



% women (FTE)

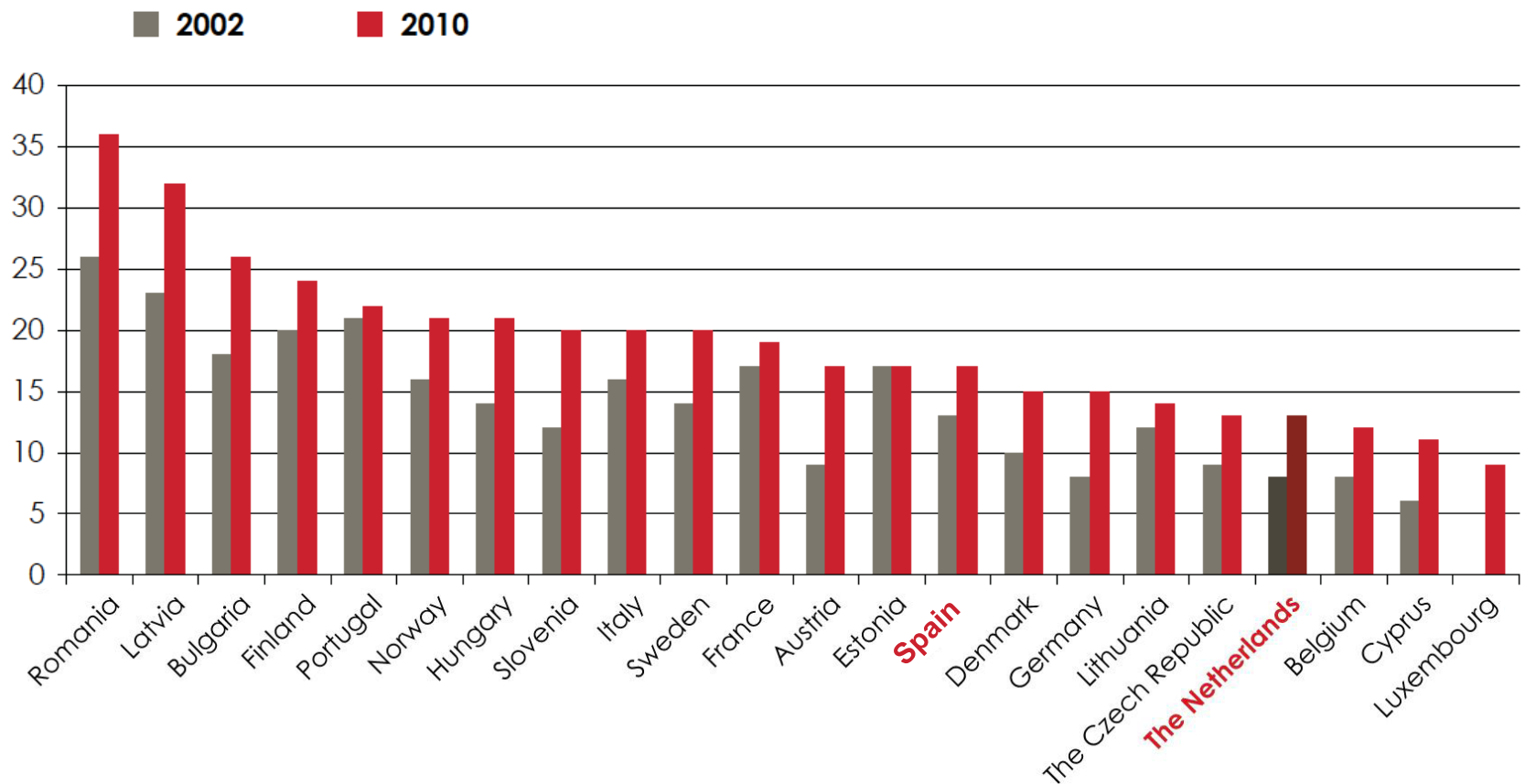


% female students/professors 2011

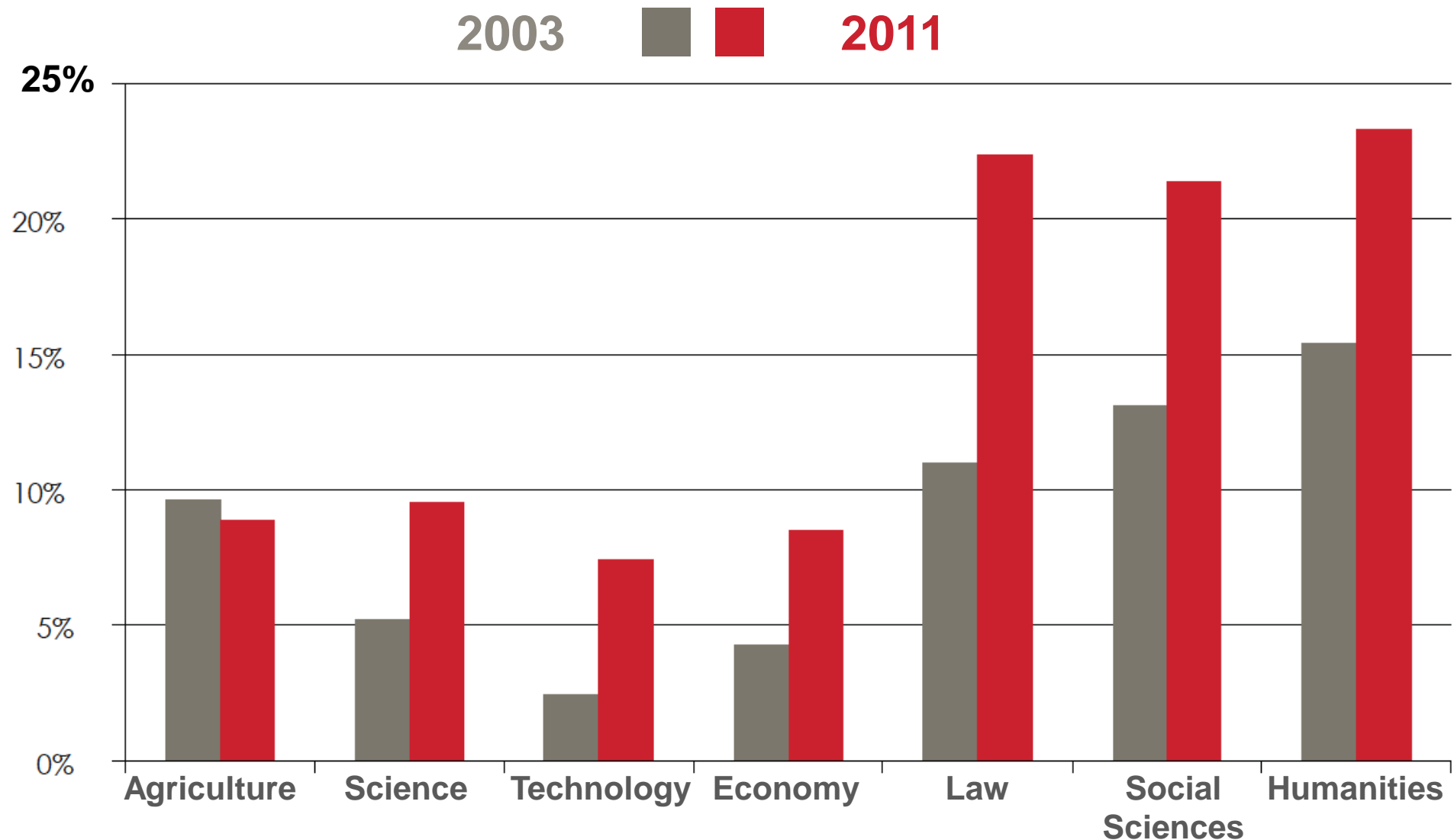
Discipline	% female students	% female professors	
Agriculture	55,4%	8,9%	16%
Science	37,1%	9,5%	26%
Technology	20,4%	7,4%	36%
Economy	33,3%	8,5%	26%
Law	59,7%	22,4%	38%
Social Sciences	68,3%	21,4%	31%
Humanities	62,7%	23,3%	37%

Professors across EU

She Figures 2012



% female professors 2003-2011



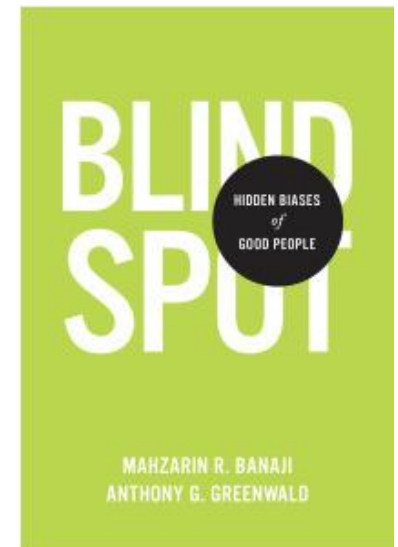
What are barriers to women?

- Cultural traditions and stereotypes about women's roles
- Internal barriers and socio-psychological factors
 - lack of self-confidence and bargaining skills
 - risk-aversion and negative attitudes towards competition
- External barriers
 - strongly male-dominated environment
 - difficulties in balancing personal and professional life
 - lack of role models

Take the test!

- Men and women have similar biases
- Implicit Social Attitudes

<https://implicit.harvard.edu/implicit/>



Please rate how much you associate the following domains with males or females.

Science

Liberal Arts

Please rate your attitude toward science.

Please rate your attitude toward liberal arts.

In your education experience, how much do you like studying science?

In your education experience, how much do you like studying liberal arts?

Women hold a smaller portion of the science and engineering faculty positions at top research universities than do men. The following factors are sometimes offered as reasons for this difference. Please rate how important you think each factor is for explaining this difference.

On average, men and women differ in their willingness to devote the time required by such "high-powered" positions.

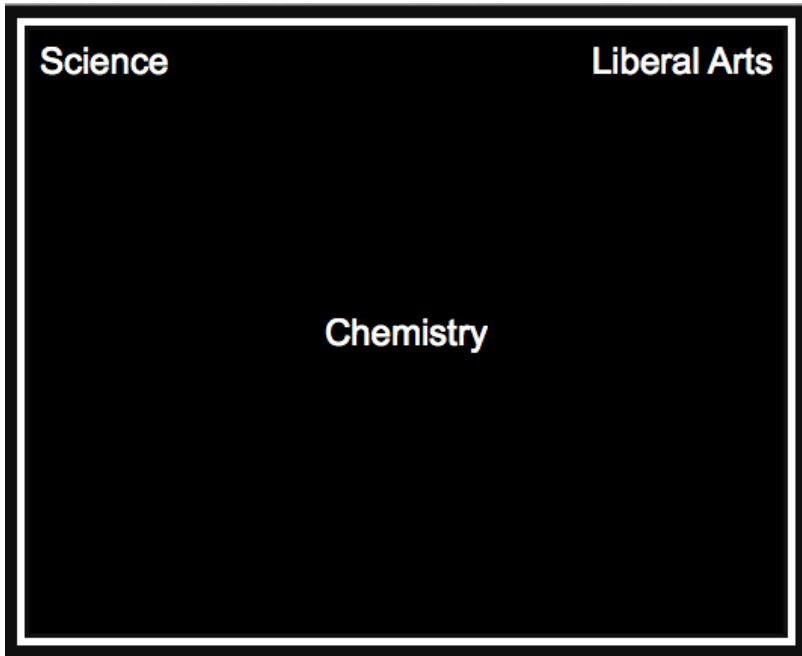
On average, men and women differ in their willingness to spend time away from their families.

Different proportions of men and women are found among people with the very highest levels of math ability.

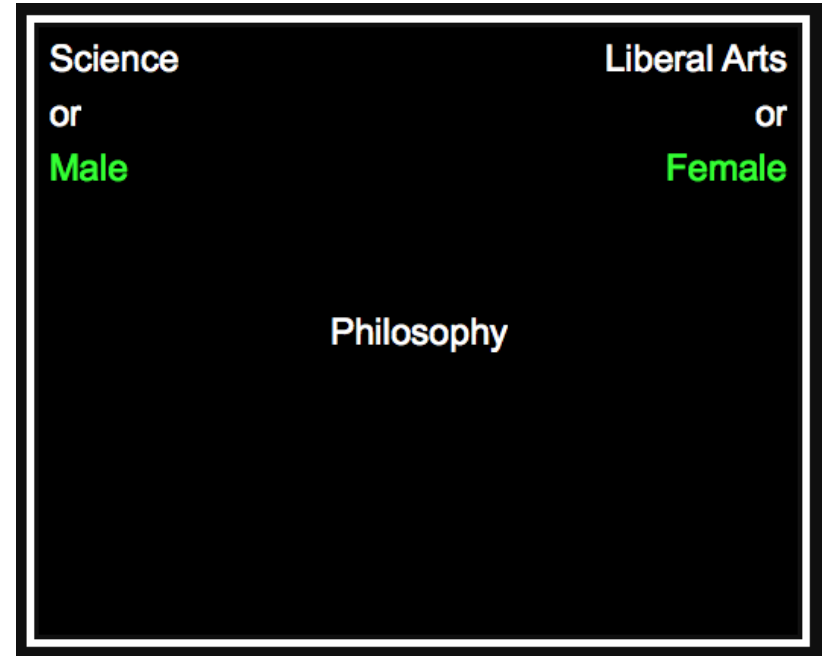
On average, men and women differ naturally in their scientific interest.

Directly or indirectly, boys and girls tend to receive different levels of encouragement for developing scientific interest.

Take the test!



left key (e) since
Chemistry is a science



right key (i) since
Philosophy is Liberal Arts

A Tale of Two Brains - Men's Brain Women's Brain



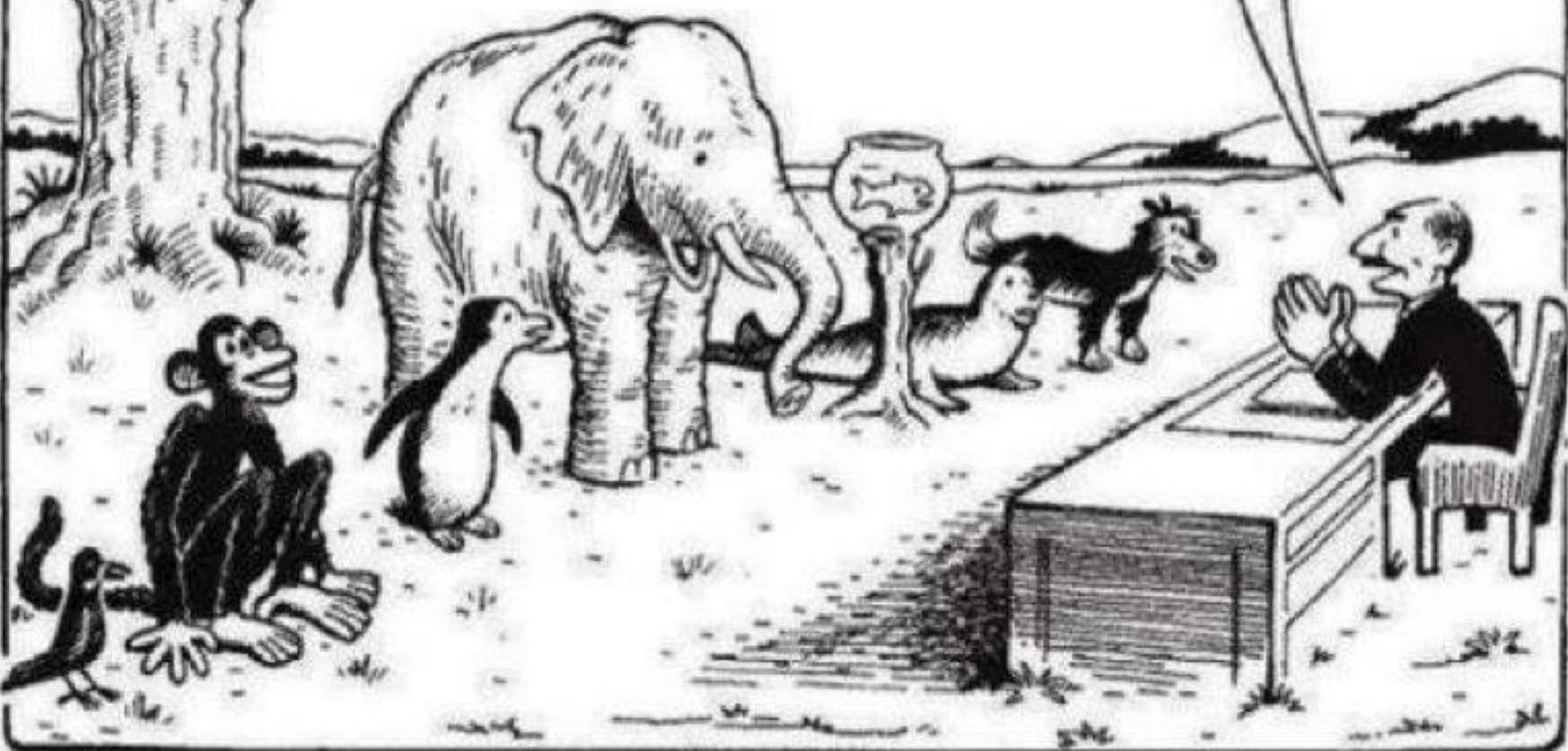
Mark Gungor markgungor.com

www.youtube.com/watch?v=29JPnJSmDs0

What is the problem

- There is no single problem
- Male dominated culture is self-perpetuating (as is female)
- Assessment *appears* to be fair

FOR A FAIR SELECTION
EVERYBODY HAS TO TAKE
THE SAME EXAM: PLEASE
CLIMB THAT TREE



What is the problem

- There is no single problem
- Male dominated culture is self-perpetuating (as is female)
- Assessment *appears* to be fair
- From the male perspective:
 - women aren't as ambitious
- From the female perspective:
 - “there is no problem”

What do we need to change?

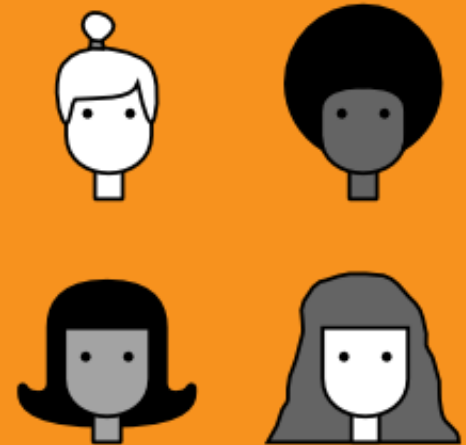
- Any dominant culture is self-perpetuating
- We need a culture shift
- Luckily, mixed culture is also self-perpetuating
- Need transitional period from one stable culture to another

How can we tackle the problems?

- Best practices need to become part of culture for sustainable change
- Informatics Europe working group
Women in ICST Research and Education
- created booklet with best practices
 - can be carried out within a department
 - generally raise awareness
 - don't have to cost a lot of money
 - often help men as well!

Categories of Best Practices

- Recruiting female students
- Recruiting female employees
- Interviewing women
- Keeping women
- Promoting women
- Support measures



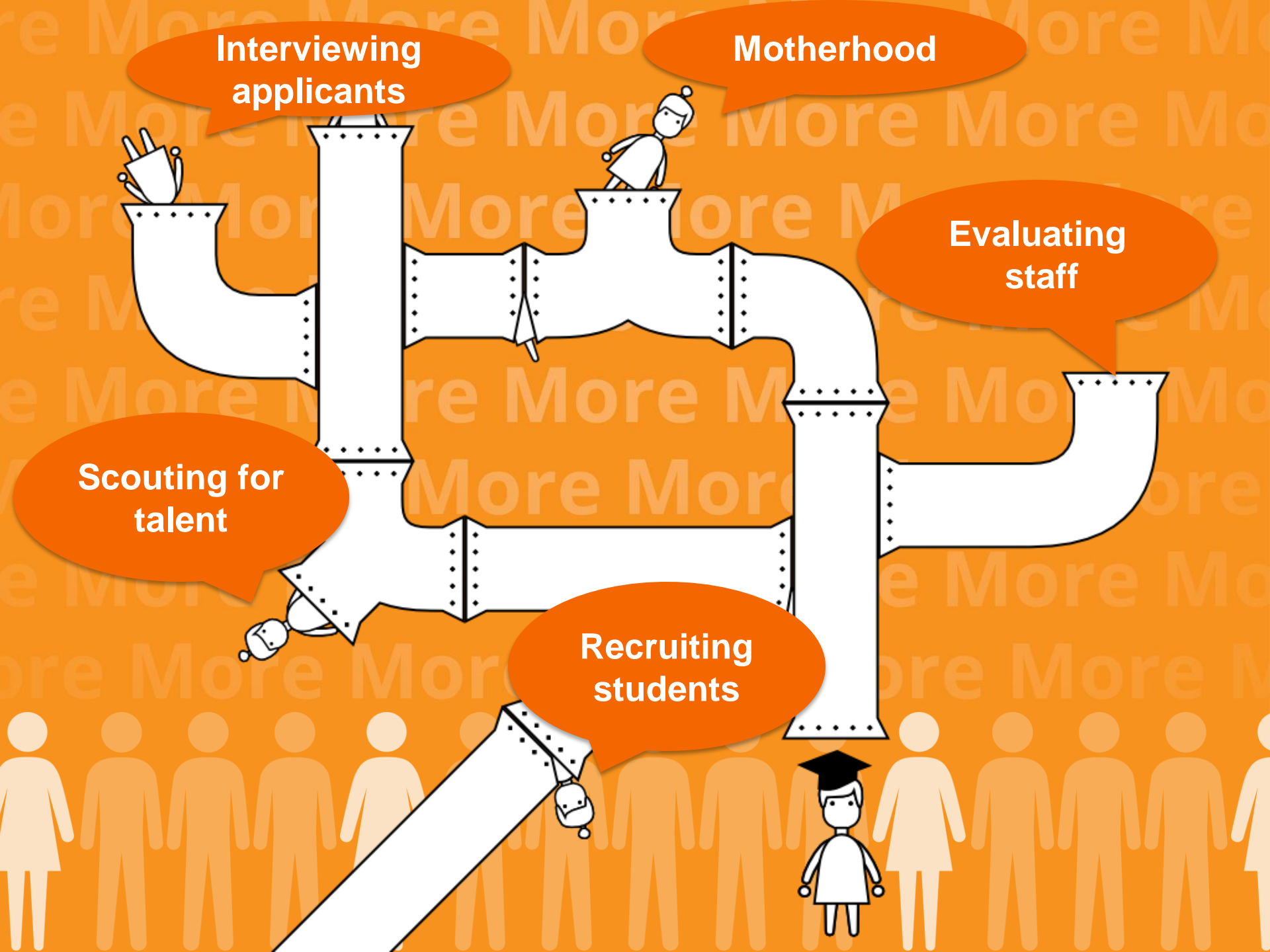
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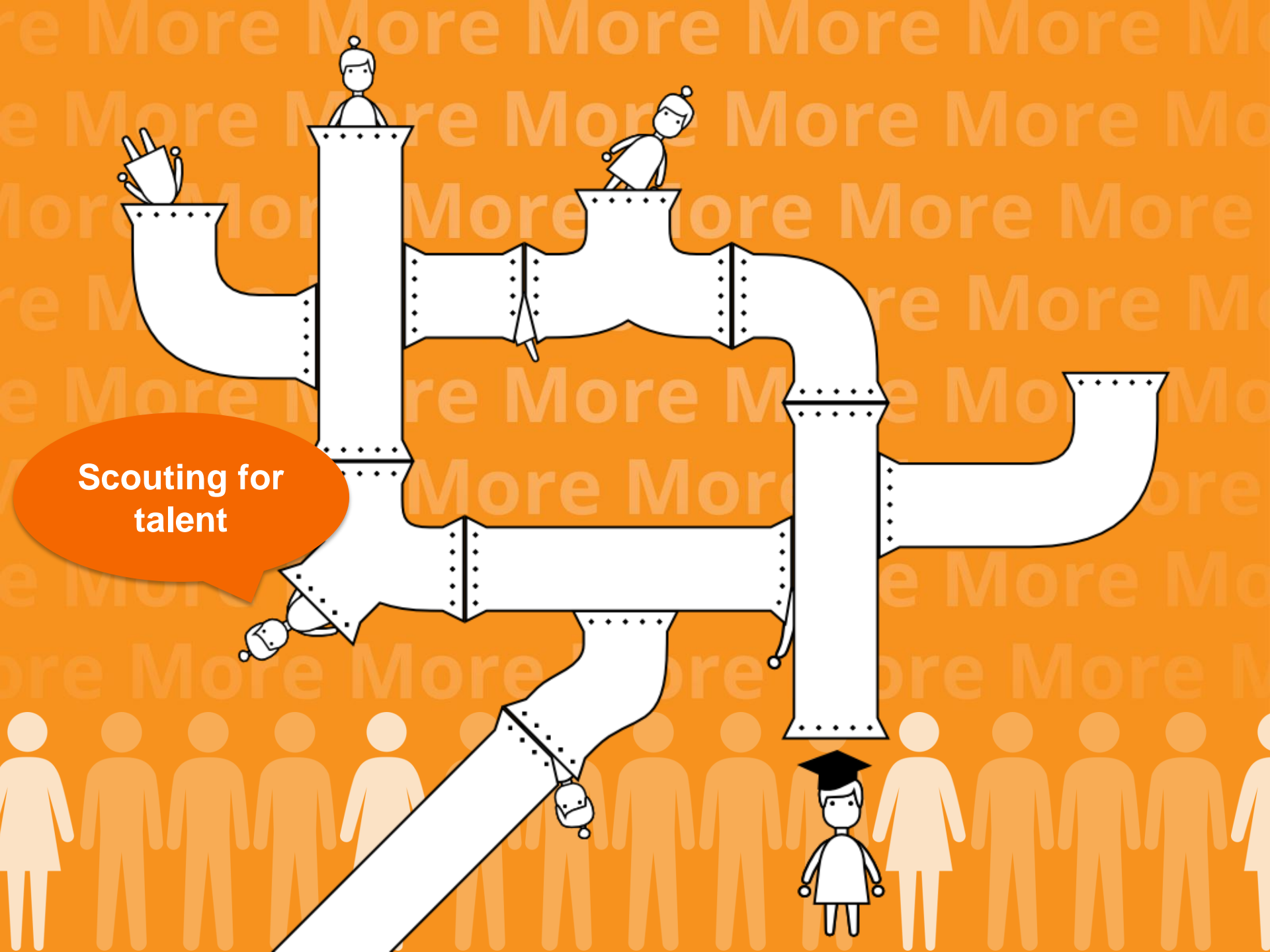
**Evaluating
staff**

**Scouting for
talent**

**Recruiting
students**



Scouting for
talent



Recruiting students

- Reach potential students through social media
- Recruit female student ambassadors and role models from the department and industry
- Depict women in recruitment brochures and websites
- Name courses so they also appeal to women

Recruiting students

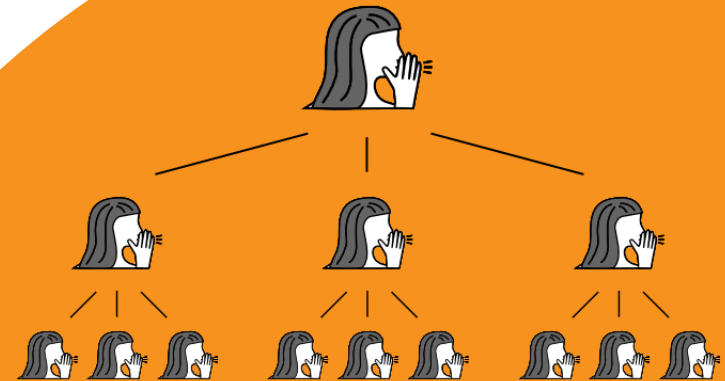
- Reach potential students through social media

For example:

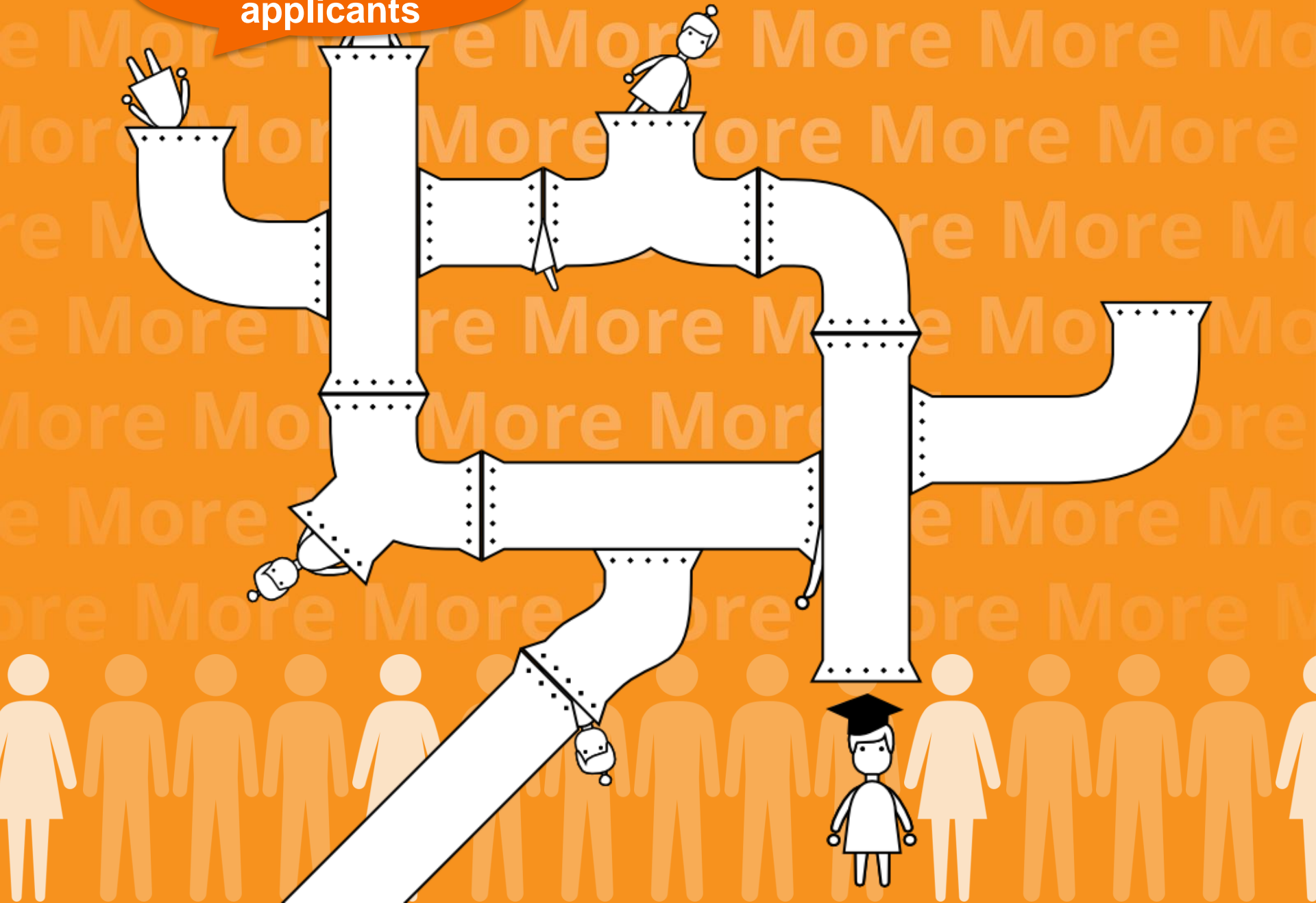
- Reach potential students through social media
 - human computer interaction
 - multimedia
 - lifestyle informatics
 - medical informatics
 - computational linguistics
 - beauty and the joy of computing
- Name courses so they also appeal to women

Recruiting female employees

- Describe job criteria explicitly
- Advertise positions openly and widely
- Allow plenty of time for applications
- Approach candidates directly
- Take action if too few qualified women apply



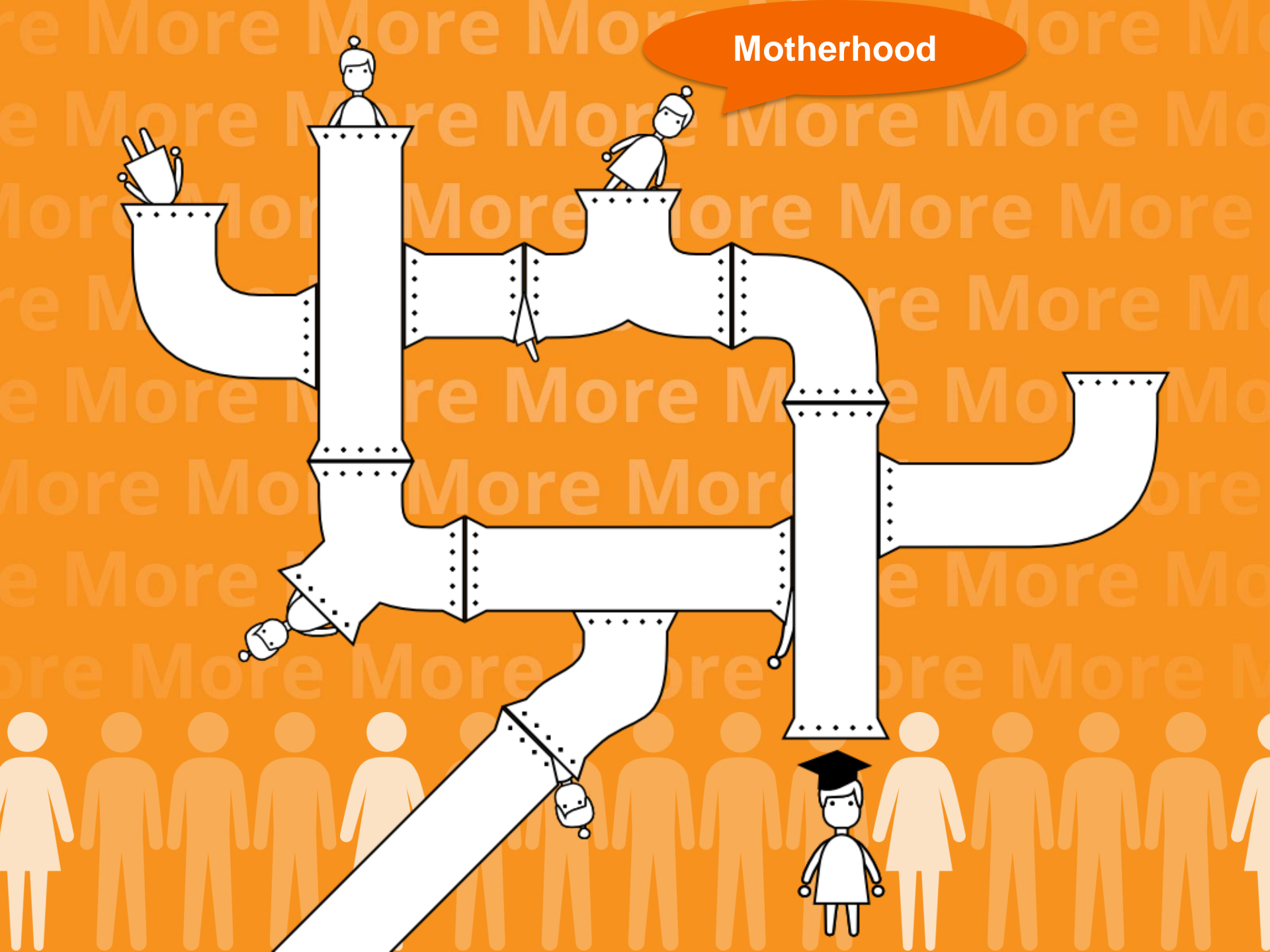
Interviewing
applicants



Interviewing women

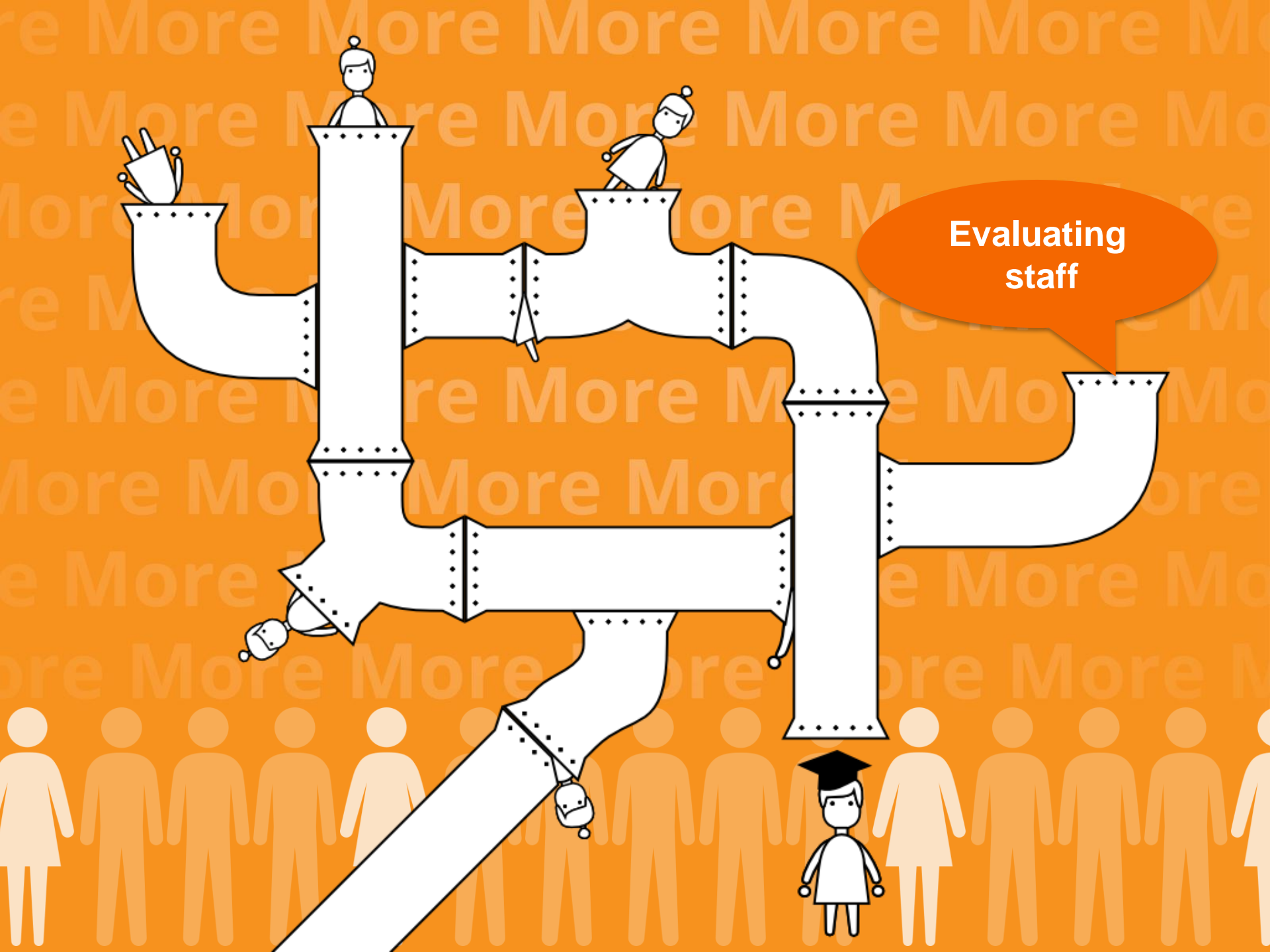
- Take maternity/paternity leave into account when judging CVs
- Nomination committee should have at least 30% women with a minimum of 2
- Invite at least the same number of (qualified) women to interview
- Ask all candidates how they would increase the numbers of women in the department
- Provide support for “two body problem” (position in same city for partner)

Motherhood



Motherhood

- Schedule meetings to allow for childcare
- Fund childcare and partner expenses for conferences for mothers with very young children
- When assessing a female member of staff, at any stage in her career, subtract
 - 18 months per child
 - periods of part-time employment
 - ERC and NWO already implement this



Evaluating
staff

Evaluating staff

- Make senior staff members aware of unconscious prejudices
- Ensure a balanced representation of women in evaluation committees
- Make performance evaluation criteria explicit
- In training programs for high potentials ensure that at least 30% are women

Promoting Women

- Nominate women for prizes and awards
- If there is currently no suitable woman available then coach someone for next time
- Invite internal/external women to speak at colloquia
- Provide support for a women's network in the department
- Hold regular discussions between representatives of the women's network and department head
- Encourage senior personnel to act as mentors
- Administer hours spent on diversity tasks

Support measures 1

- Offer incentives for groups when they employ a female member of staff
- Offer an excellent postdoc candidate a tenure track position based on specified criteria
- Provide visibility and self-promotion training for all female researchers
- Provide coaching and mentoring on how to
 - combine work and family demands
 - deal with the competition for scarce permanent positions

Support Measures 2

- Consult regularly with women at different levels e.g. monthly lunch
- Scout and follow talented female researchers
- Train/scout for female successors to retiring professors
- Monitor % women at all levels in organisation. Create realistic targets and action plans. Include figures in departmental and national evaluations.
- Assign gender diversity to scientific member of management team
- Consider a women-only tenure track programme until representation is balanced



university of
groningen

Special circumstances require special measures

11-12-2014

The Rosalind
Franklin Fellows

tenure track
assistant
professorships
exclusively for
women.

First 5 years paid
by University
Board then by
Faculty.



The example is followed...

15-8-2014

- University of Groningen: Rosalind Franklin fellowships
- University of Twente: **Tenure Track UTwist3 Woman in Science**
More than 100 applicants for 4 positions
- UvA: **Carolina MacGillavry fellowship**
Over 200 applicants for 3 positions in 2010, 6 in 2013
- VUA: **Fenna Diener Lindeboom Chairs** (19 since 2005)
- TU/e **Women in Science tenure tracks** 5 positions
- TU Delft **Delft Technology Fellowship**
- Radboud University **Joliot-Curie Fellowships**
- NWO is considering organising a national program



What do we do at RUG?

15-8-2014

The number of female professors has gone up considerably!

60 invited for
opening 2006/2007

Now: 122 invited for
female professors'
dinner 2011 – not a
complete list...

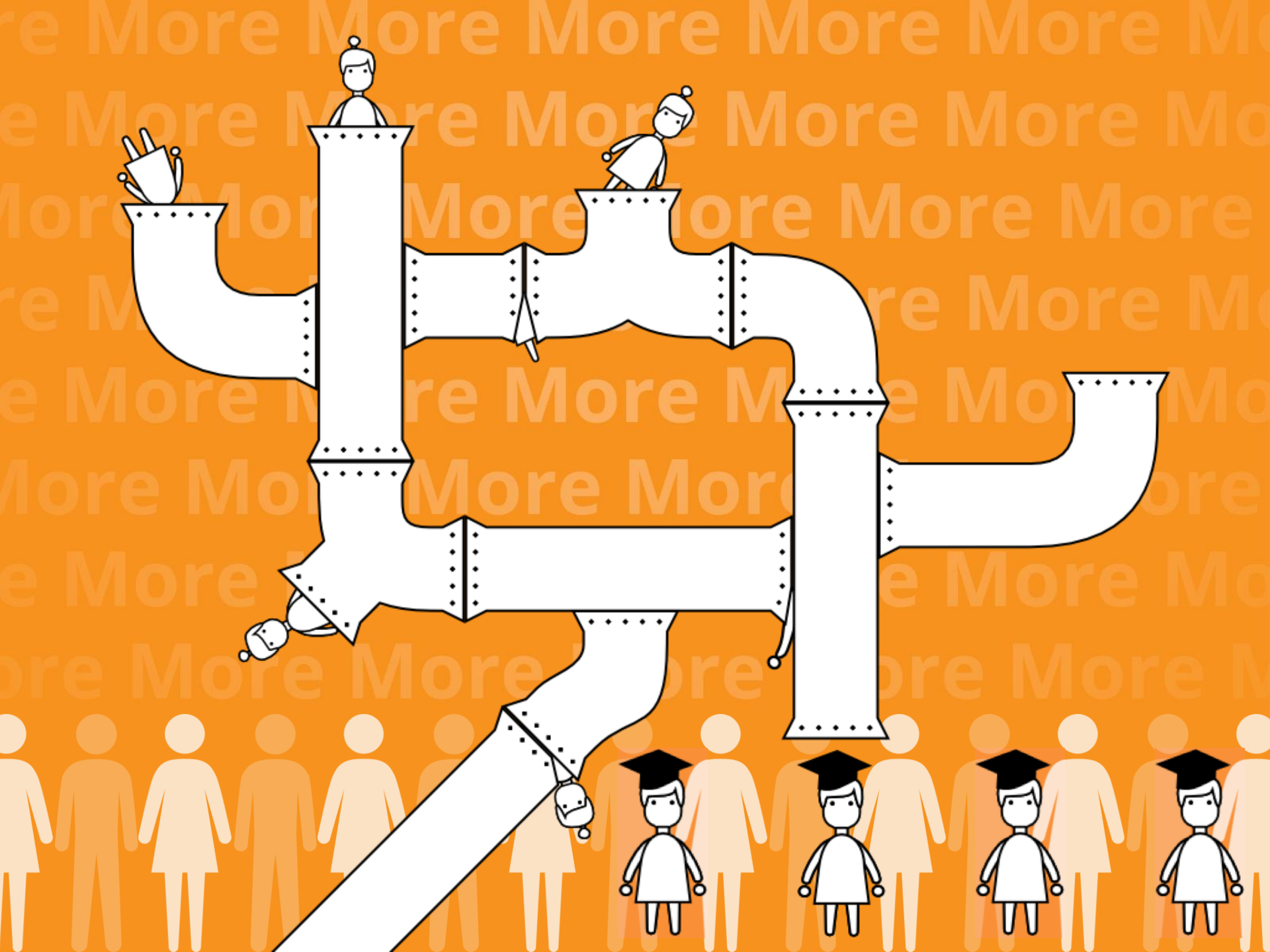
But...





Not all the staff is used to a “woman boss”





Organisations with similar goals

- LNVH, NL
 - Women professors
 - Collect national statistics on women at different levels in academia
- Talent to the Top, NL
 - Business, academia, public organisations
 - Promotes better gender balance at top levels
 - LinkedIn group for finding top talent
- Athena SWAN, UK
 - Academic Science
 - Gives public awards for promoting gender equality
- ACM-W Europe
 - Computer science professionals
 - Provides career and networking support

LNVH: Dutch network of Women Professors

- Aims to promote the proportionate representation of women in academia
- Network of over 850 female professors and associate professors
 - out of 4,500 prof.s & associate prof.s in NL
- Organises courses for all levels of academic staff
- Commissions monitor of female professors and other publications
- Mediates between mentors and mentees



What does signing the Charter mean in practice?

1. assessing your initial situation, objectives and strategy regarding gender diversity
2. providing information to begin measurement in the first six months after signing
3. reporting annually on progress and results using the Talent Monitoring Tool
4. receiving feedback from the Talent to the Top Monitoring Commission in the form of
 - an individual report
 - a benchmark of all signatories.

Athena SWAN

- The Athena SWAN Charter developed to advance the representation of women in science, engineering and technology.
- It grants awards to higher education institutions, and departments within them, that can demonstrate that they are taking action to address its six principles.
- Launched in 2005
- First awards granted in 2006

Athena SWAN Principles

- To address gender inequalities requires commitment and action from everyone, at all levels of the organisation
- To tackle the unequal representation of women in science requires changing cultures and attitudes across the organisation
- The absence of diversity at management and policy-making levels has broad implications which the organisation will examine



Athena SWAN Principles

- The high loss rate of women in science is an urgent concern which the organisation will address
- The system of short-term contracts has particularly negative consequences for the retention and progression of women in science, which the organisation recognises
- There are both personal and structural obstacles to women making the transition from PhD into a sustainable academic career in science, which require the active consideration of the organisation



Athena SWAN Awards

- **Bronze:** identified particular challenges and planned activities for the future.
- **Silver:** significant record of activity and achievement and can demonstrate impact of implemented activities.
- **Gold:** significant, sustained progression and achievement, beacons of achievement that champion and promote good practice and Athena SWAN



How to obtain an award

- Identify a self-assessment team.
- Collect and analyse data about recruitment, retention and promotion of female students and staff at all levels.
- Report on current good practice in the department, and present evidence of its impact.
- Identify current weaknesses, or even bad practice, in the department.
- Write a three year action plan of how to build on the good practice and eliminate the bad practice.
- (Present two case studies of how good practice in the department has enhanced the experience of women in the department.)



ACM-W Europe

- Established in July 2012
- **Vision**
“Cultivate and inspire people about the opportunities in computer science and clear the pathways for women in computing”



ACM-W Europe Goals

- Raise awareness of the importance of women being in the computing profession
- Make women aware of career options
- Promote new ways of facing the challenges of the next generation of women in computing
- Increase participation of women in senior level positions of ACM and its conferences
- Provide a platform for sharing resources, ideas and experiences
- Work on programmes related to women in computing with the EU and the European Commission



ACM-W Europe womENCourage



womencourage.acm.org 1st March 2014

Closing remarks

- Gender is not only a women's issue
- Gender is only one aspect of diversity
- Need extra measures in transitional period
- Diversity needs to be tackled at different levels:
 - group
 - department
 - university
 - national

Acknowledgements

Petra Rudolf, University of Groningen

Jane Hillston (Athena SWAN information)

Reyyan Ayfer, ACM-W Europe

Floris Jansen, graphic design

