

Implicit bias in practices in technology research and overcoming them

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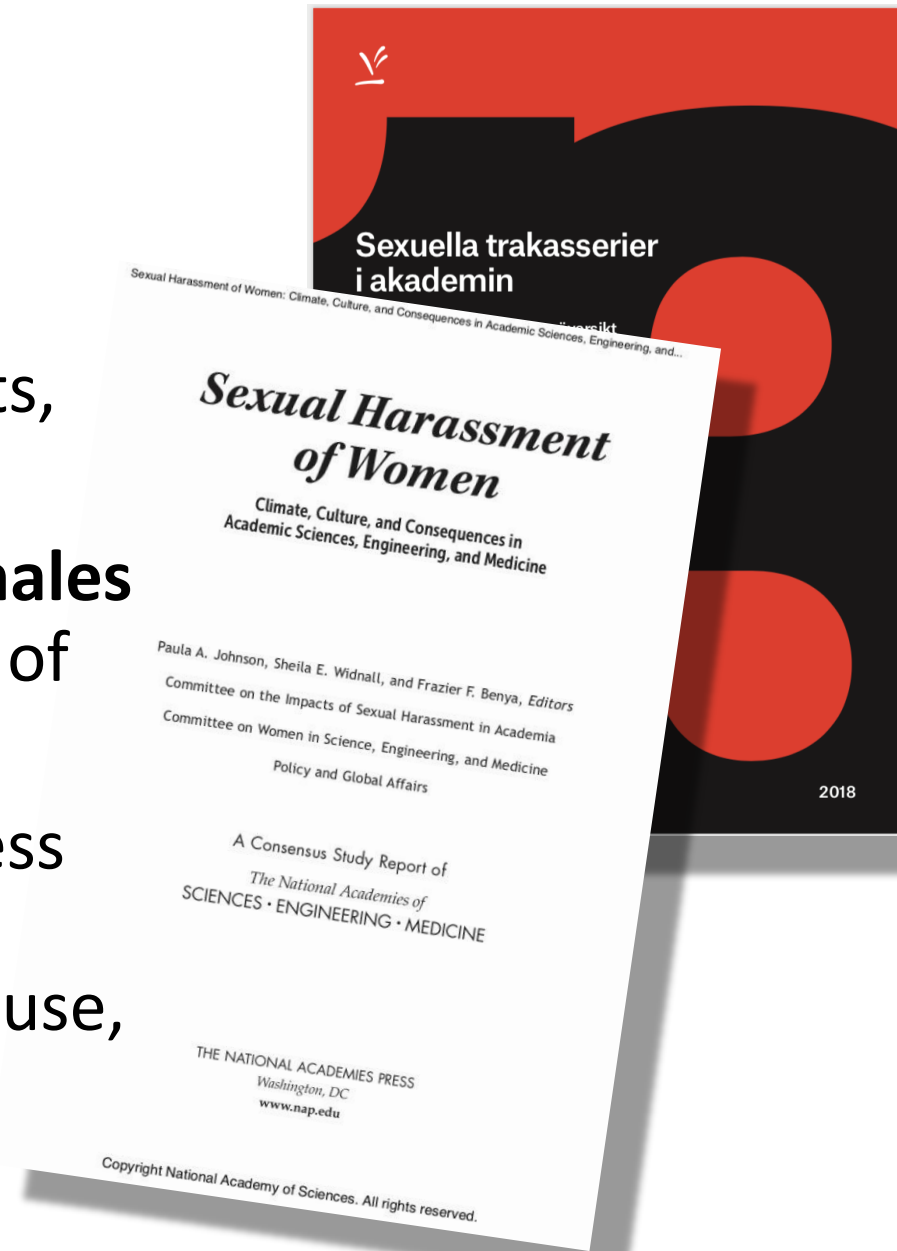
- Studies from research in a variety of fields:
 - organizational studies, psychology, science studies, gender studies, sociology, anthropology, history
 - state-funded or national agencies in Sweden, the EU level and the USA.
- References and further resources at the end of the presentation

Opportunities for intervention

- Recruitment
- Evaluation
- Research content
- Retainment & promotion - Workplace issues

#MeToo

- Sexual harassment **occurs in all disciplines in academia and is reported by all groups** (students, doctoral students, employees).
- In Swedish surveys, from **4 to 26 per cent of females and 2 to 6 per cent of males** report experiences of sexual harassment.
- Leads to depression, anxiety, post-traumatic stress disorder, physical pain, unwanted pregnancies, sexually transmitted diseases, increased alcohol use, **impaired career opportunities, reduced job motivation**, etc. (pgs 8-9)
- Addressed through organizational climate



Bondestram, F & Lundqvist, M (2018) *Sexuella trakasserier i akademien*. Vetenskapsrådet

Johnson, P. et al 2018 *Sexual Harassment of Women* National Academic Press

EU statistics – She Figures 2018

- women made up 47.9 % of doctoral graduates at the EU level,
- over-represented in education (68 %), but under-represented in the field of information and communication technologies (21 %) and the fields of engineering and manufacturing and construction (29 %)
- one third of the EU's researchers were women
- In STEM: 15 % of grade A academic positions held by women
- Women employed in scientific R&D activities earned on average 17 % less than their male colleagues
- R&D expenditure per researcher seems to have an inverse relationship with the proportion of female researchers



Research excellence and equality



Husu, L & Koskinen, P (2010) Gendering Excellence in Technological Research: A Comparative European Perspective. *Journal of Technology Management and Innovation* 5(1). 127-139

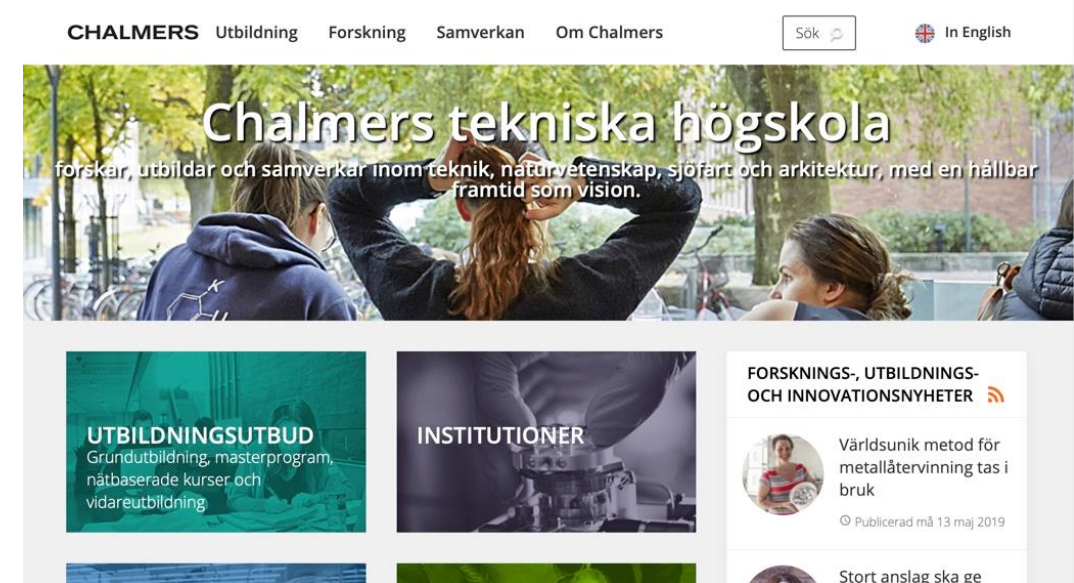
IVA 2019 *Teknisk obalans?*

Opportunity 1: Recruitment

Finding the candidates

Examples for change:

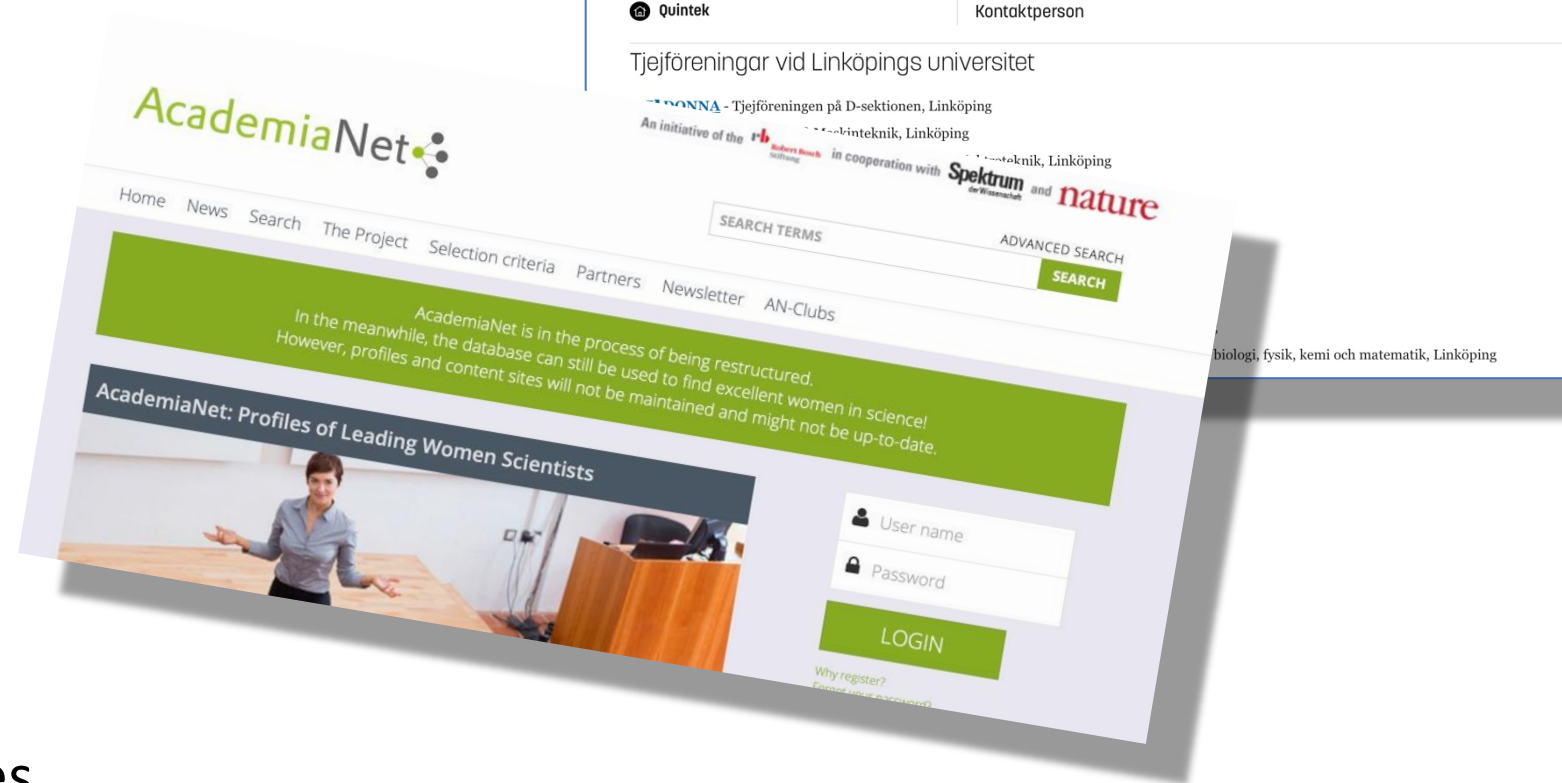
- Chalmers: Proactive recruitment or candidate search
- Wallenberg: 40% of nominations form the under-represented gender.
 - 2017 – 50% women for the Fellows programme



**Knut och Alice Wallenbergs
Stiftelse**

Practical tips

- Look harder
- Use societies
 - professional groups
 - Academia-Net.org;
 - SIV Uppsala
 - mentorship programmes
- Ask your networks for 2-3 potential candidates
- Advertise widely – including through special societies and social networks
- Evaluate job advertisements and web pages for gender norms



Opportunity 2: Evaluation

Selecting the candidates



Academic version

- Randomized, double blind, evidence based...
- Male candidates/CVs get hired more, higher starting salaries, offered more mentoring support
- Male candidates are thought to be more competent – even by women.
- Implicit bias



Moss-Racusin et al 2012 Science faculty's subtle gender biases favour male students PNAS 109(41) 16474-79

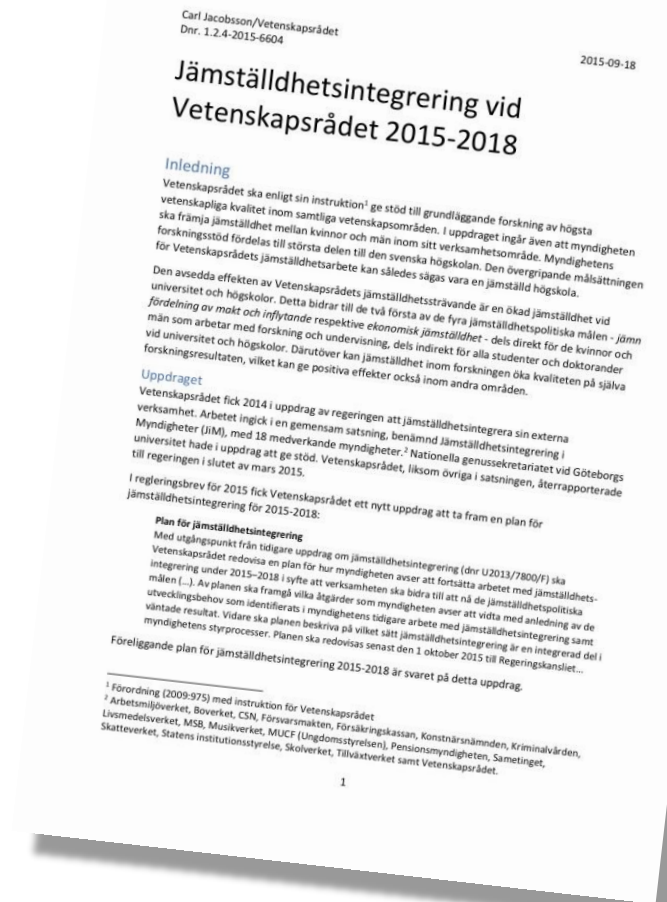
Implicit bias

- Doctor
- Plumber
- Electrician
- Professional football player
- Garbage man
- Nurse
- Kindergarten teacher

Implicit bias



Nobel prize winners in Physics 2008-2018



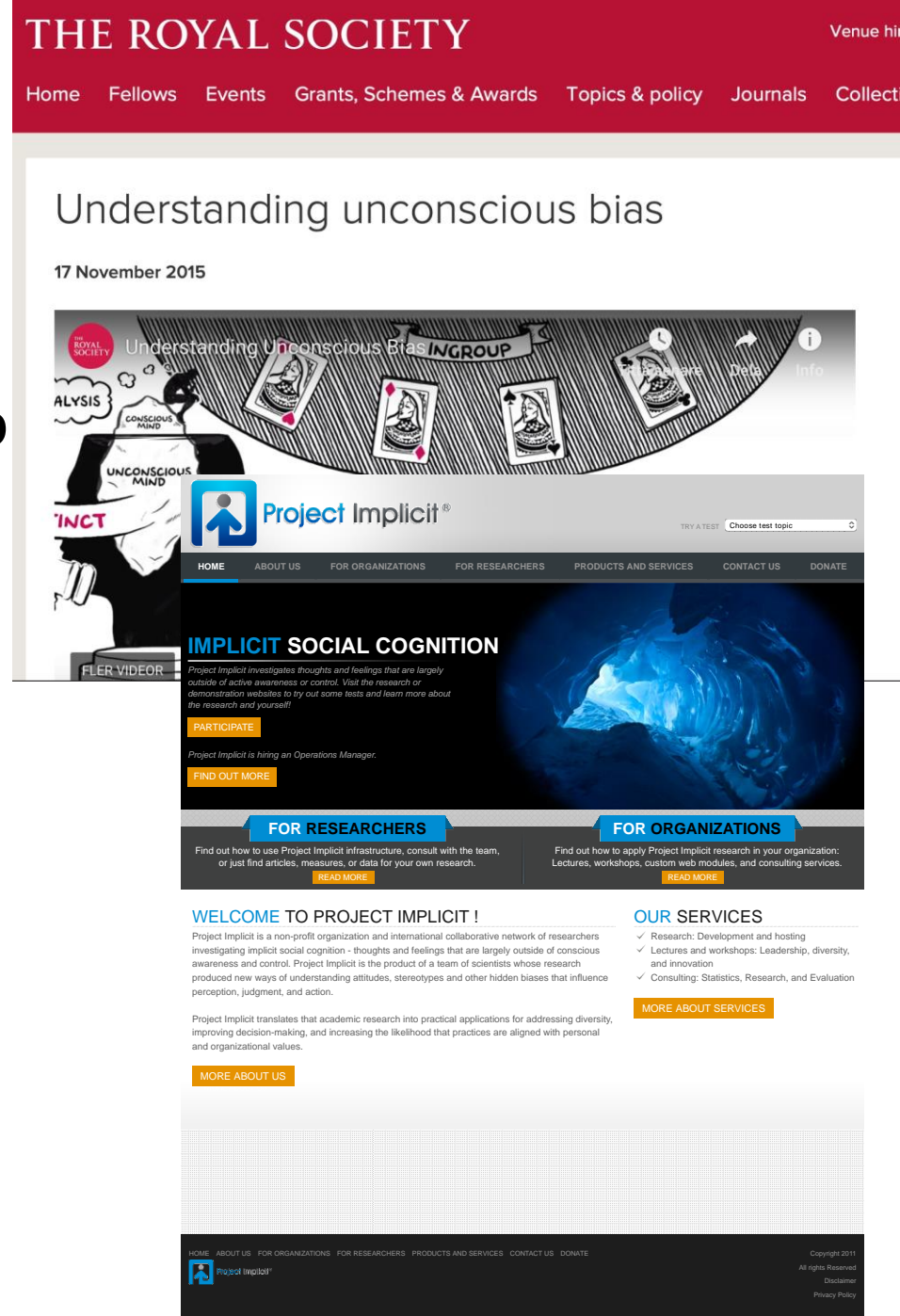
Evaluation processes – what can happen

- Neutral criteria seldom are neutral – they reflect the *status quo*
- Observers see:
 - Questioning female candidates' independence, leadership
 - Performance vs potential
 - Collaboration as a sign of weakness
 - Focus on the merits missing
 - Publications called 'reports'
 - Irrelevant personal information being discussed
- Who is evaluating and how
 - Roles, status and group dynamics
 - Networks – not insulting strong colleagues
 - Table placements



Practical tips: implicit bias

- Become aware
- Remember that you are human; others have it, so do you
- Slow down your decision making
- Ask what your decision is based on
- Look for cultural stereotypes, learn about other groups
- Implicit bias is easier to see in others:
 - Call them out
 - Use an observer in evaluation committees – others do it. You can, too.



Opportunity 3: Research content



2015- 2018 *Delredovisning av handlingsplan för jämställdhetsintegrering på Vinnova*

Practical tips: Research content

Gender & Diversity Issues at...

- Idea phase
- Proposal phase
- Research phase
- Dissemination phase



- Norm Creative Design tips – NOVA
- Engender 2009 *Toolkit. Gender in EU funded Research*. European Commission



Opportunity 4: The Workplace Academic Housekeeping

Local, low-status, time-consuming, important but invisible...

...nevertheless need to be done.

Lending a hand when needed

Committee work

Helping (and comforting) doctoral students

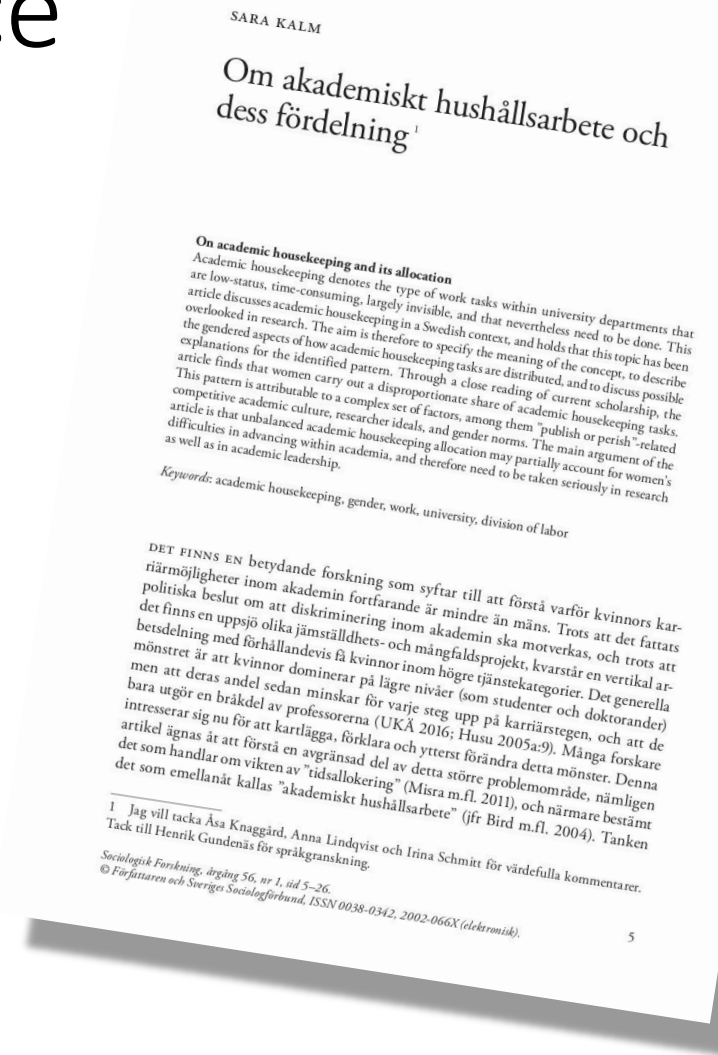
Teaching for sick colleagues

Organizing 'soft' departmental events

(Christmas parties, retirement events, 'fikas')

Filling up the seminar rooms

High alternative costs in a hard, "publish or perish"-related competitive academic culture.



Kalm, Sara 2019 Om akademiskt hushållsarbete och dess fördelning *Sociologisk Forskning* 56(1):5-26

Opportunity 4: The Workplace

Distributing resources

“access to funds, laboratory resources and influence”

- Hire
- Retain
- Support
- Promote

‘A ton of feathers still weighs a ton.’

Recent article about the Salk Institute in the New York Times Magazine



Comment | Published: 06 March 2013

Laboratory life

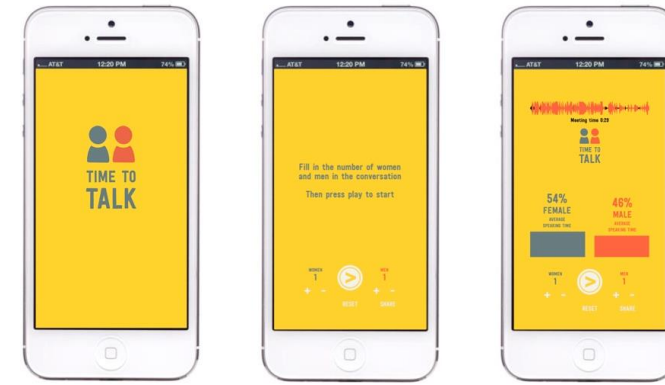
Scientists of the world speak up for equality

Nature **495**, 35–38 (07 March 2013) | [Download Citation](#)

Eight experts give their prescriptions for measures that will help to close the gender gap in nations from China to Sweden.



Practical tips: Observe the workplace



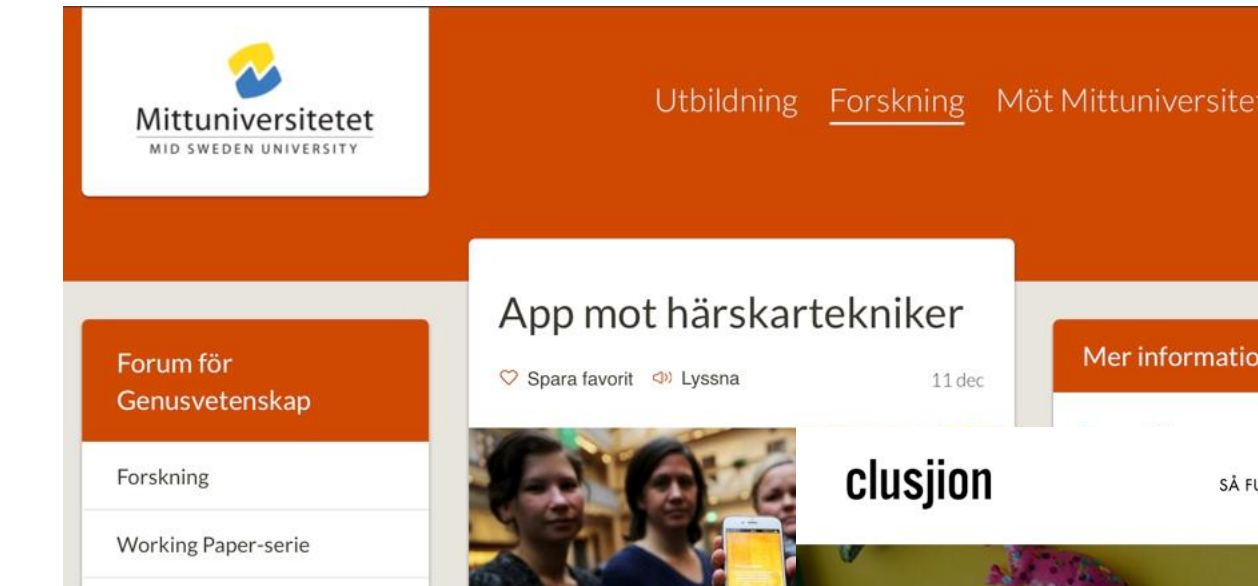
Thinking about:

- Seminar culture
- Visibility/invisibility
- Jargon
- Norms and silences
- Life outside the office
- Physical obstacles
- Routines - transparency



- Change the minority or change the organization?
- Wahl, A. 2014 Male Managers. Challenging and reinforcing the Male Norm in Management. *NORA* 22(2)

Practical tip: Hire in resources



Mittuniversitetet
MID SWEDEN UNIVERSITY

Utbildning Forskning Möt Mittuniversitetet

Forum för Genusvetenskap

Forskning

Working Paper-serie

App mot härskartekniker

♡ Spara favorit ♡ Lyssna 11 dec

Mer information



GOGENIUS

GoGenius Affärsnytta GoHub Om oss Kunder Kontakt

GoHub - en del av GoGenius

För att verkligen lyckas gå från ord till handling erbjuder vi GoHub, ett digitalt verktyg för att aktivera strategier och en viktig del i GoGenius processmodell. Stödet underlättar för såväl ledning som chefer och medarbetare att bli delaktiga och bidra i det förändringsarbete som ledningen har beslutat om.

GoHub är ett webb- och molnbaserat aktiveringsverktyg som stärker samarbetet och levererar konkreta, mätbara resultat som ger ledningen möjlighet att följa arbetet i realtid. På så sätt kan ledningen hålla sig uppdaterad om hur långt arbetet har kommit, vad som är på gång och hur mycket som återstår att göra. GoHub har utvecklats i nära samverkan med vår partner Hubbster, och skapar ett viktigt nav för samarbete och engagemang inom organisationen.



clusion

SÅ FUNKAR DET VARFÖR CLUSJION BEHAVIOR

Hur skapar vi en inkluderande kultur?

vkna!

Hem Erbjudande "Gör det själv" Om oss Blogg Kontakt Nyhetsbrev

Vkna webbverktyg i jämställdhet

Vkna har tagit fram en helhetslösning för ert arbete med jämställdhet och inkludering på arbetsplatsen. Vkna Webbverktyg är en interaktiv onlinetjänst där ni som verksamhet på ett enkelt och effektivt sätt kan kompetensutveckla er personal. Verktöget bygger på relevant forskning och har ett filmiskt upplägg. Materialet är upplagt som en utbildning med kortfilmer, animationer och diskussionsövningar där ni får möjlighet att relatera all kunskap till just er verksamhet.

Upplägget är kostnadseffektivt och bygger på forskning som visar att jämställdhets- och jämlikhetsarbete har större chans att lyckas och bli hållbart om initiativ kommer från chefer och ledning. Genom att använda Vkna webbverktyg får ni syn på vad just er organisation behöver.



LULEÅ TEKNISKA UNIVERSITET

UTBILDNING FORSKNING MÖT UNIVERSITETET

STUDENT MEDARBETARE IN ENGLISH

Industriell design

Nyheter och aktuellt

Forskningsprojekt

Avslutade forskningsprojekt

Publikationer

Utbildning

Kontakta oss

Visa originalbild

Digitala verktyg för jämställdhet och inkludering

Publicerad: 11 mars 2019

What to do?

Think about making changes at:

- Recruitment – engage others, get help
- Evaluation – reflect on implicit bias
- Research content – what/who is absent?
- Retainment & promotion – Workplace environment

Further resources

- General studies of women in research/academia
 - Scientists of the World Speak Up for Equality. Nature. 1476-4687, Vol. 495, nr 7439, s. 35-38
 - <https://publications.europa.eu/en/publication-detail/-/publication/9540ffa1-4478-11e9-a8ed-01aa75ed71a1/language-en>
 - <https://hbr.org/2017/03/research-junior-female-scientists-arent-getting-the-credit-they-deserve>
 - <https://publications.europa.eu/en/publication-detail/-/publication/c17a4eba-49ab-40f1-bb7b-bb6faaf8dec8>
 - Sadker, D & K. Zottöe, *am Still Failing at Fairness* (New York: Schribner, 2009)
- Sexual Harassment
 - <https://www.nap.edu/catalog/24994/sexual-harassment-of-women-climate-culture-and-consequences-in-academic>
 - <https://www.vr.se/analys-och-uppdrag/vi-analyserar-och-utvarderar/alla-publikationer/publikationer/2018-10-15-sexuella-trakasserier-i-akademin.html>
- Workplace environment, power structures
 - <http://www.gdtoolbox.eu/read-more/>
 - http://www.gdtoolbox.eu/sv/files/2013/05/Projekträdet_folder.pdf
 - <https://www.tandfonline.com/doi/pdf/10.1080/08038740.2013.864702?needAccess=true>
 - Heilman, et al (2004) "Penalties for Success: Reactions to Women Who Succeed at Male Gender-Typed Tasks," *Journal of Applied Psy* 89(3):416-27
- Recruitment and Hiring practices
 - <https://www.projectimplicit.net>
 - <https://www.pnas.org/content/pnas/109/41/16474.full.pdf>
- Promotions, grants and resource distribution
 - <https://royalsociety.org/topics-policy/publications/2015/unconscious-bias/>
 - <https://www.vr.se/download/18.781fb755163605b8cd216f88/1529480568355/Jämställdhetsintegrering+vid+Vetenskapsrådet+2015-2018.pdf>
 - https://www.vr.se/download/18.2412c5311624176023d25a75/1555332044503/En-jaemstaellid-process-VRs-bedomningsgrupper_VR_2017.pdf
 - <https://www.nytimes.com/2019/04/18/magazine/salk-institute-discrimination-science.html>
 - <https://hbr.org/2017/03/research-junior-female-scientists-arent-getting-the-credit-they-deserve>
- Design, research content
 - <https://www.yellowwindow.com/genderinresearch/index.html>