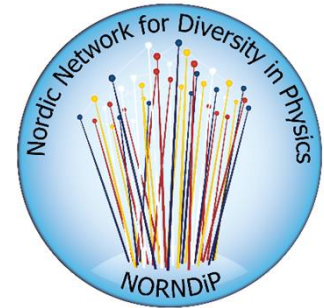




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Women and Physics in Sweden

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Gender equality in Sweden

is one of the cornerstones of Swedish society.

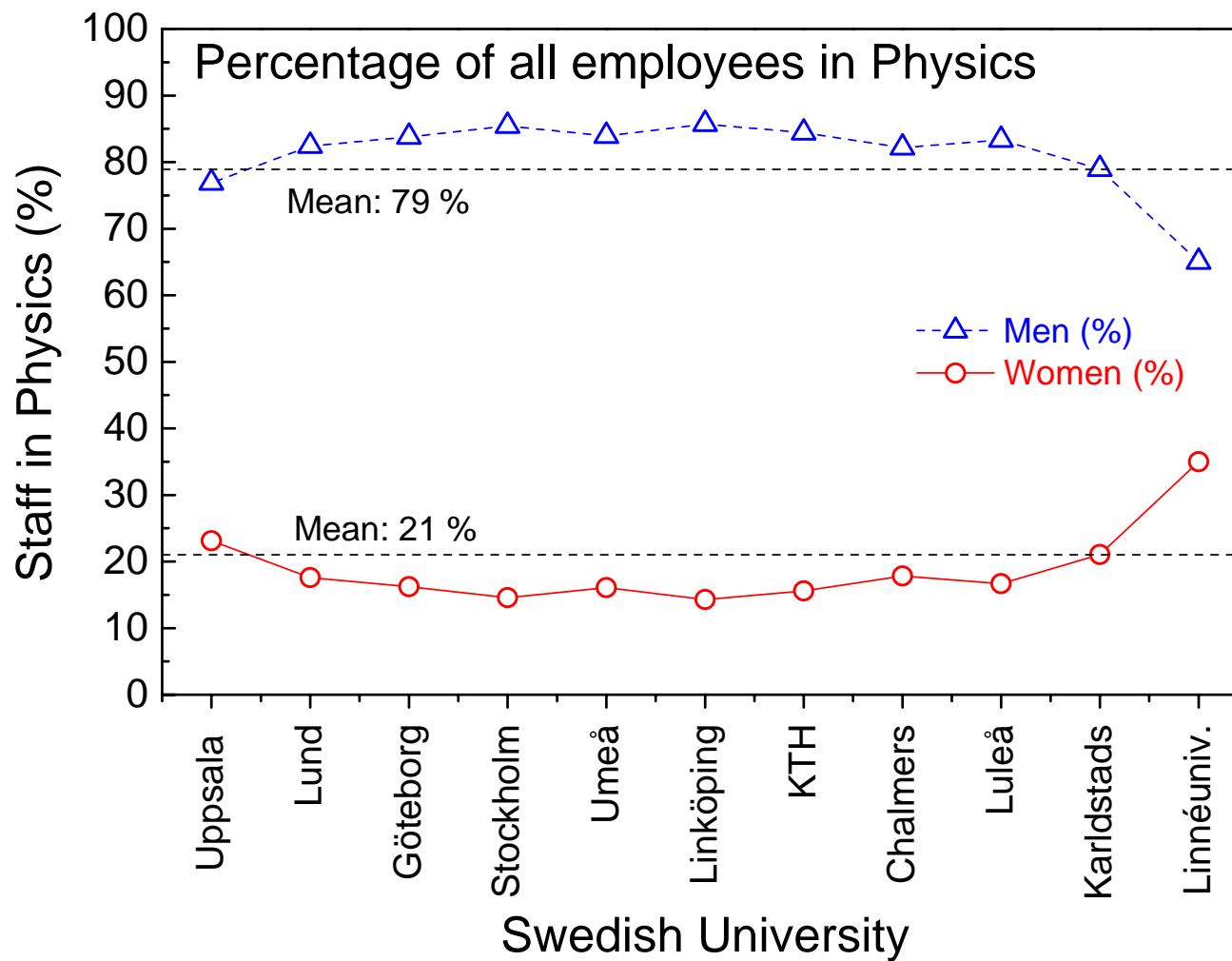
The aim of Sweden's gender equality policies is to ensure that everyone enjoys the same opportunities, rights and obligations in all areas of life


- *Quantitative* aspect: equal distribution of women and men in all areas of society (education, work, leisure activities, position of power, etc.), economic equality (same opportunities and conditions)
- *Qualitative* aspect: equal weight is given to knowledge, experience and values of both women and men to enrich and direct all spheres of society
- Discrimination Act (2009): women and men have same rights and opportunities in terms of physical integrity
- Parental Leave Act (updated 2016): 480 paid days (16 months) + 30 sickness benefit days. 90 days of parental leave cannot be transferred. Same benefits applied for adopted children.

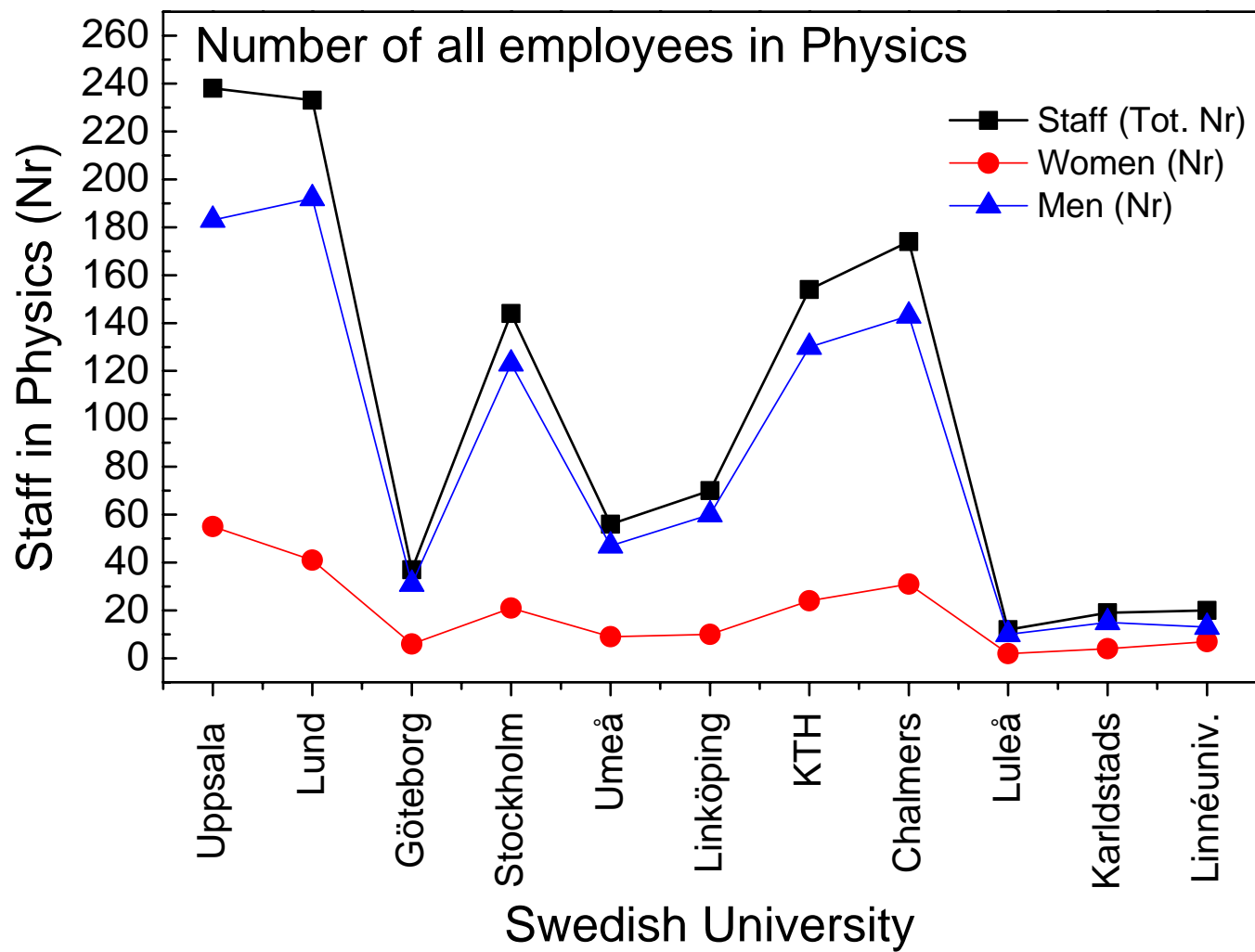
Today's situation

- Key questions:
 - What is the share of women in Physics?
 - Where are the women in terms of scientific scope and career development?
 - Which are the measures taken in Sweden to retain women in Physics?
- Statistics at Swedish universities

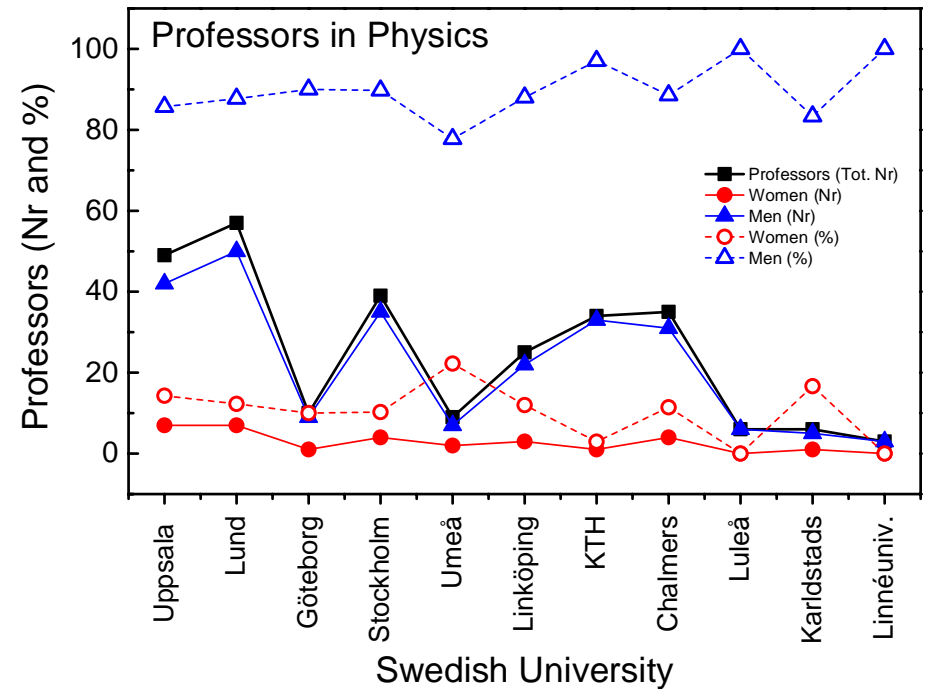
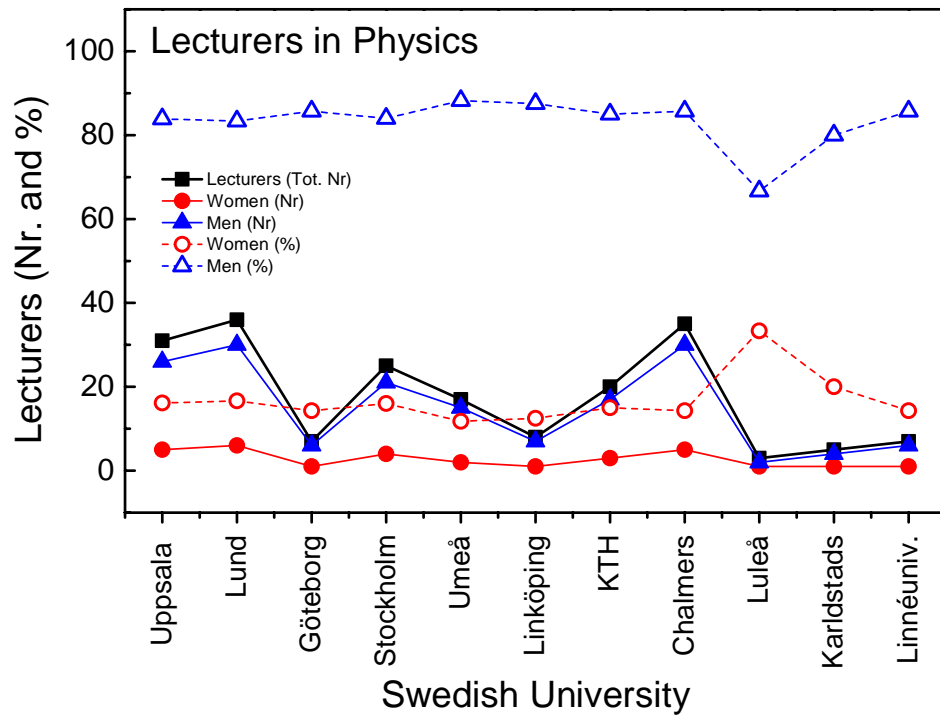




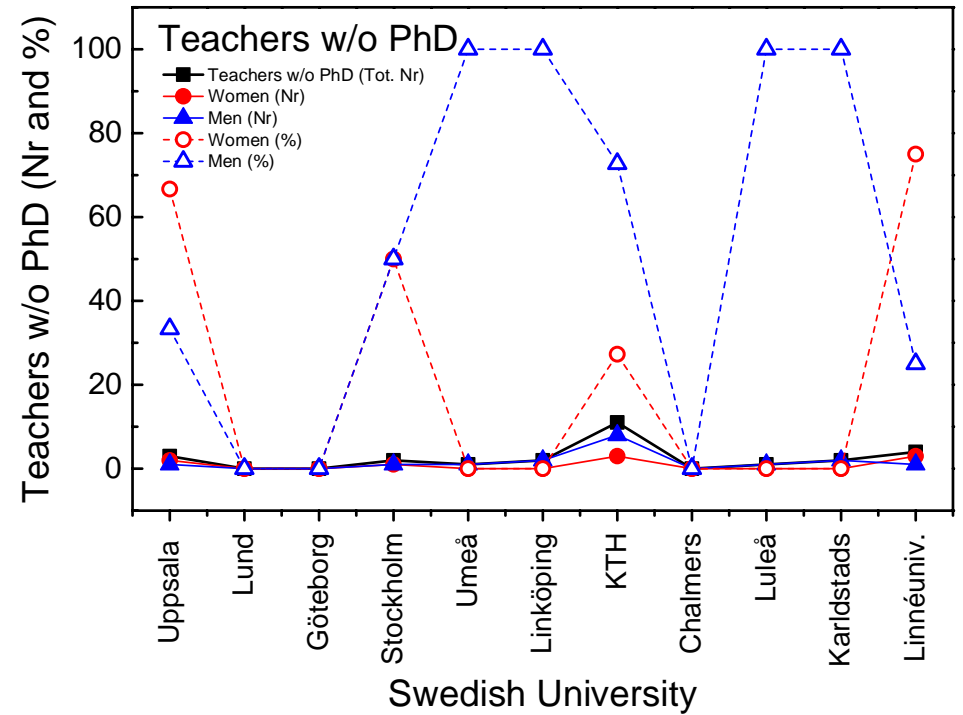
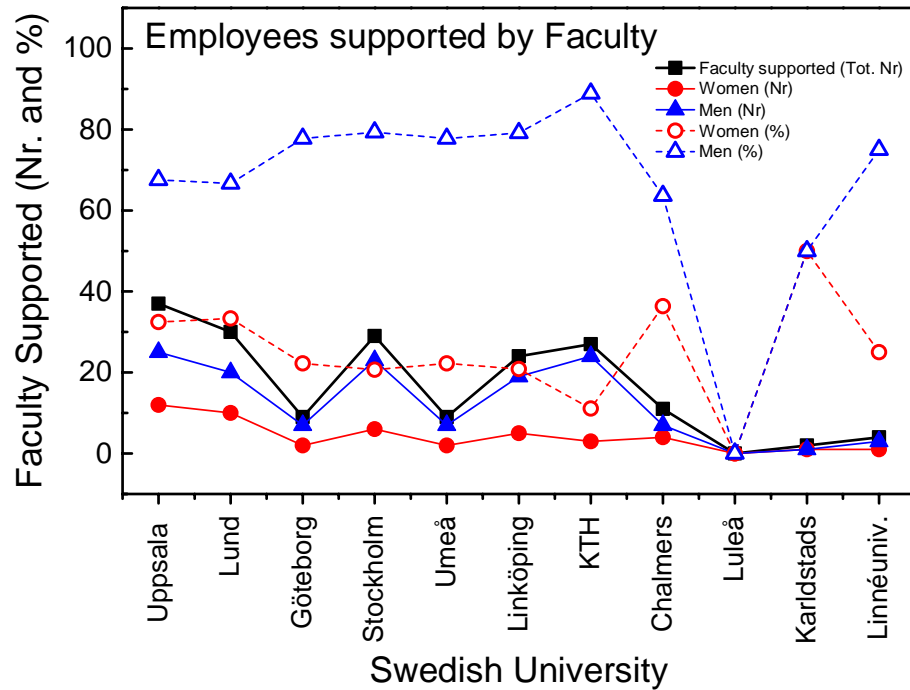
Data from  Sveriges officiella statistik (2015)



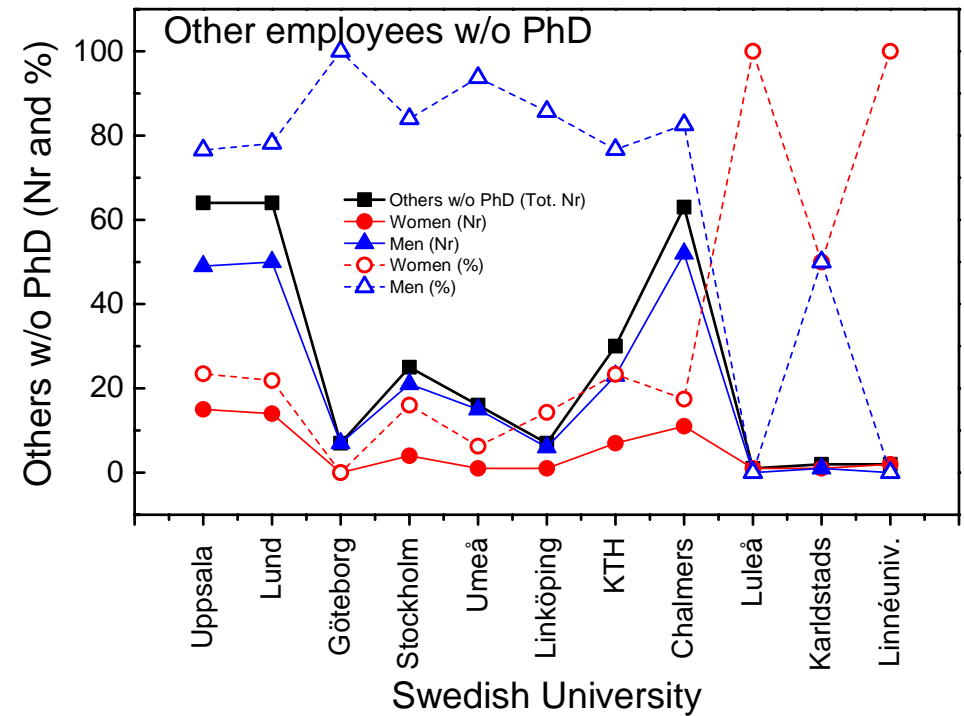
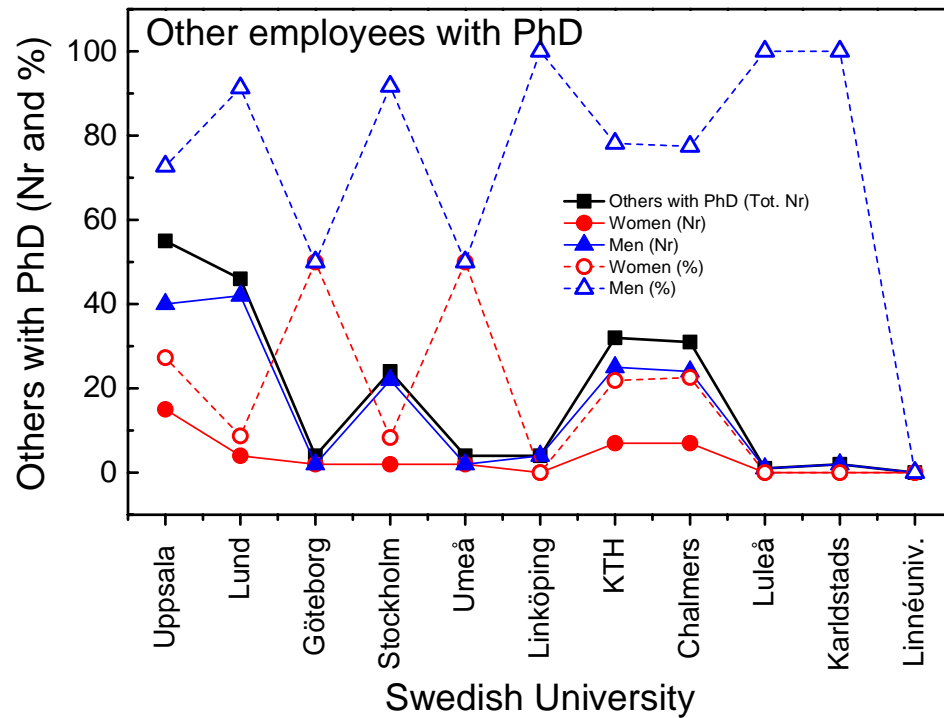
Teaching and research staff in Physics in Sweden



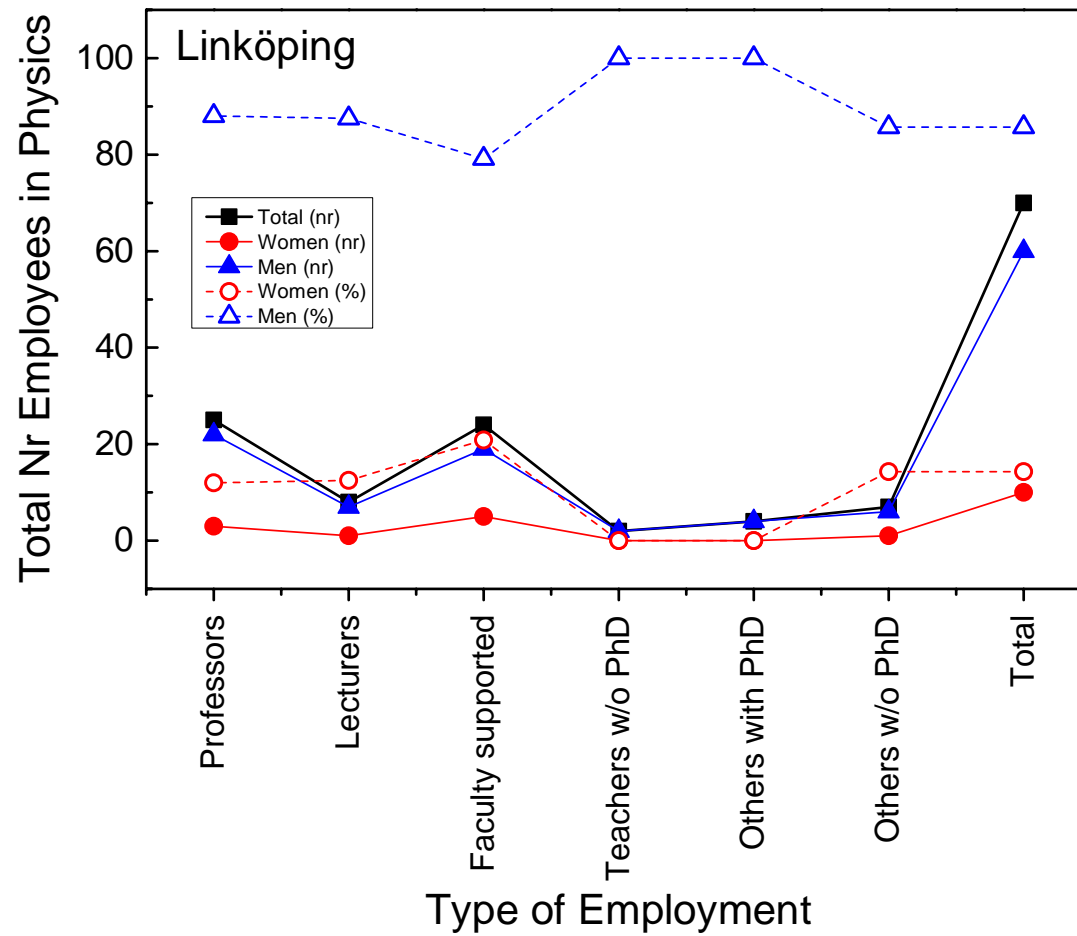
Teaching and research staff in Physics in Sweden



Teaching and research staff in Physics in Sweden

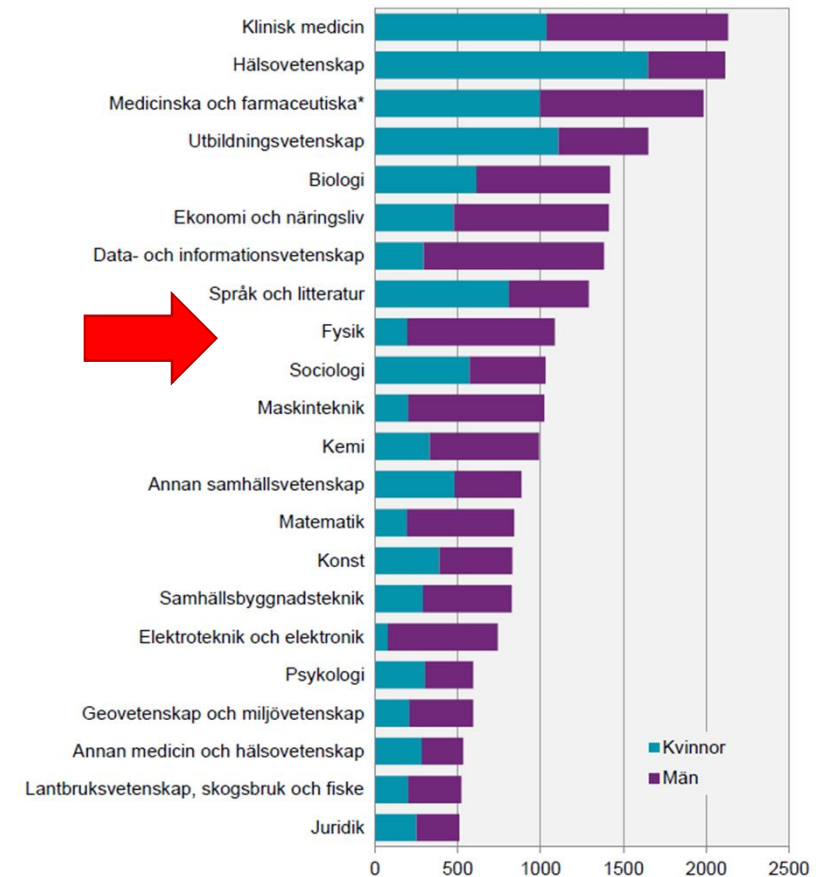
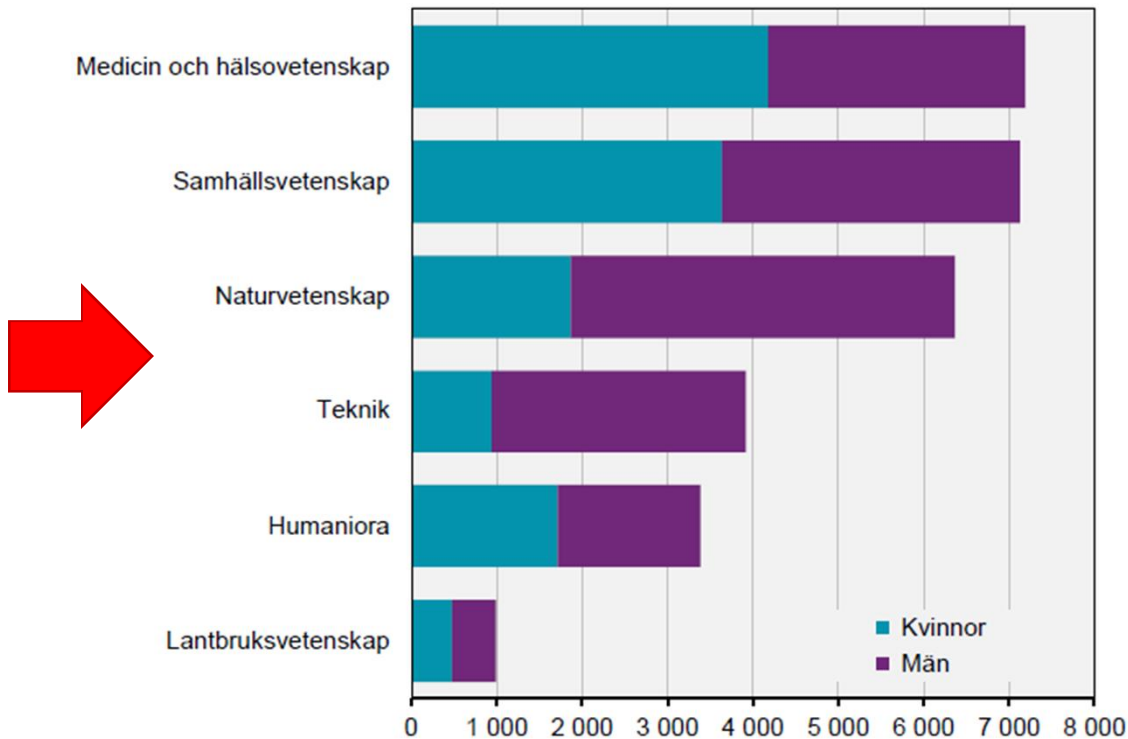


Teaching and research staff at LiU



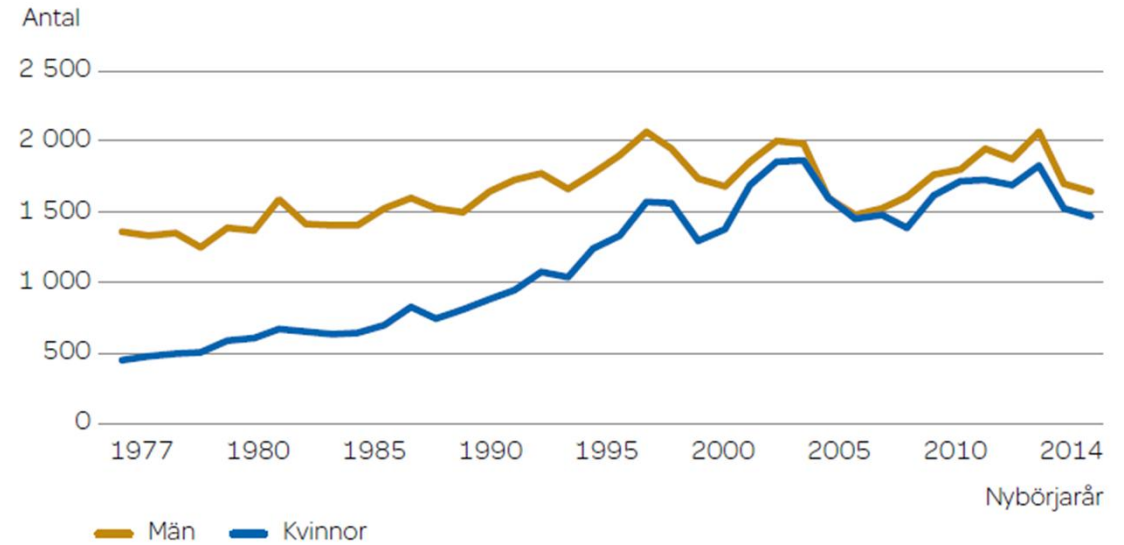
Data 2015

Nr of full-time equivalents with research and teaching responsibilities



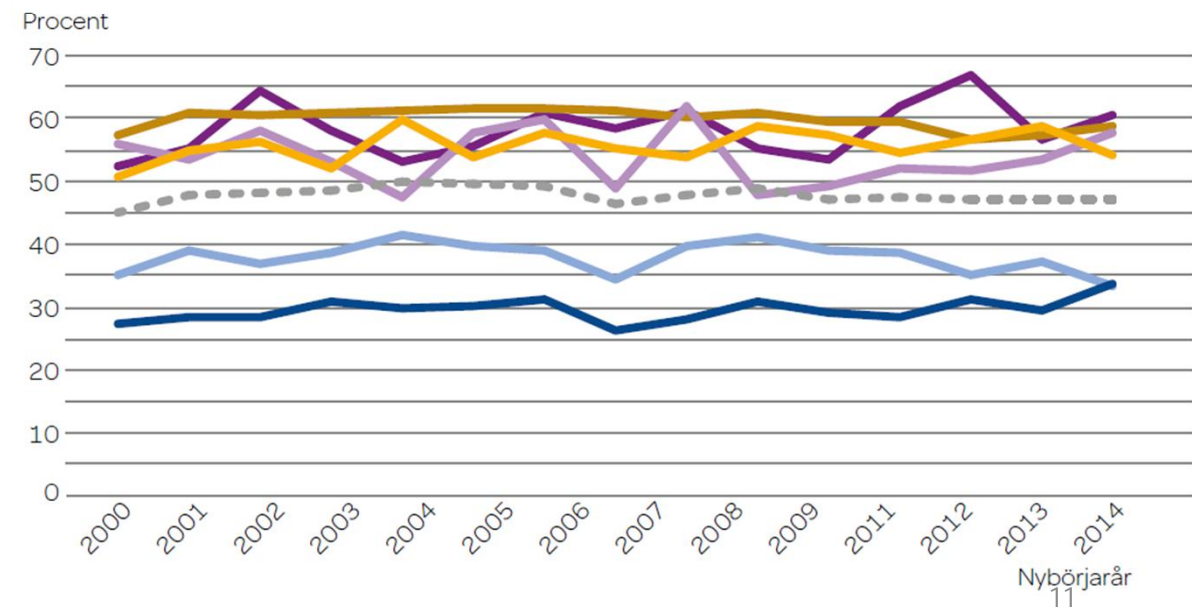
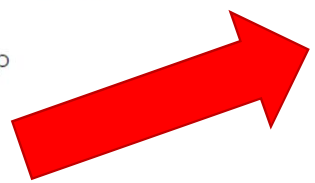
Among professors the lowest proportion of women is found in the fields of natural science and technology

Starting PhD students 1977-2014: nr of men and women



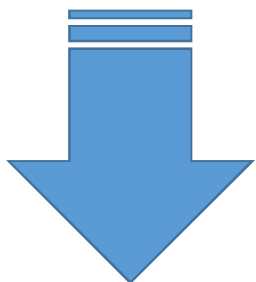
Starting PhD students 2000-2014: % women by research area

- Lantbruksvetenskap
- Medicin och hälsovetenskap
- Humaniora
- Samhällsvetenskap
- Totalt
- Naturvetenskap
- Teknik



Starting PhD students 2011-2014: % of men and women by research area

The proportion of women who starts a PhD in Physics is weak



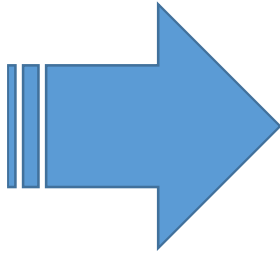
The proportion of women who continues academic career in Physics is weaker

	Kvinnor (%)	Män (%)	Antal	Könsfördelning
Humaniora	53	47	765	Jämn
Annan humaniora	69	31	94	Fler kvinnor
Filosofi, etik och religion	31	69	134	Fler män
Historia och arkeologi	46	54	164	Jämn
Konst	63	37	134	Fler kvinnor
Språk och litteratur	59	41	239	Jämn
Lantbruksvetenskap¹	62	38	257	Fler kvinnor
Husdjursvetenskap	59	41	54	Jämn
Lantbruksvetenskap, skogsbruk och fiske	55	45	128	Jämn
Veterinärmedicin	76	24	58	Fler kvinnor
Medicin och hälsovetenskap	58	42	4 734	Jämn
Annan medicin och hälsovetenskap	66	34	68	Fler kvinnor
Hälsovetenskap	70	30	935	Fler kvinnor
Klinisk medicin	57	43	2477	Jämn
Medicinsk bioteknologi	50	50	136	Jämn
Medicinska och farmaceutiska grundvetenskaper	52	48	1118	Jämn
Naturvetenskap²	36	64	3 098	Fler män
Biologi	50	50	722	Jämn
Data- och informationsvetenskap	20	80	569	Fler män
Fysik	27	73	633	Fler män
Geovetenskap och miljövvetenskap	47	53	366	Jämn
Kemi	42	58	512	Jämn
Matematik	29	71	288	Fler män
Samhällsvetenskap	56	44	2 209	Jämn
Annan samhällsvetenskap	67	33	191	Fler kvinnor
Ekonomi och näringsliv	44	56	625	Jämn
Juridik	56	44	153	Jämn
Medie- och kommunikationsvetenskap	43	57	203	Jämn
Psykologi	59	41	187	Jämn
Social och ekonomisk geografi	58	42	85	Jämn
Sociologi	63	37	210	Fler kvinnor
Statsvetenskap	53	47	133	Jämn
Utbildningsvetenskap	70	30	422	Fler kvinnor
Teknik³	31	69	2 746	Fler män
Annan teknik	46	54	226	Jämn
Elektroteknik och elektronik	22	78	481	Fler män
Industriell bioteknik	46	54	167	Jämn
Kemiteknik	41	59	201	Jämn
Maskinteknik	28	72	640	Fler män
Materialteknik	29	71	401	Fler män
Medicinteknik	40	60	20	Jämn
Nanoteknik	13	87	82	Fler män
Naturresursteknik	33	67	140	Fler män
Samhällsbyggnadsteknik	30	70	388	Fler män
Totalt⁴	47	53	13 809	

Women: 27 %
Men: 73 %

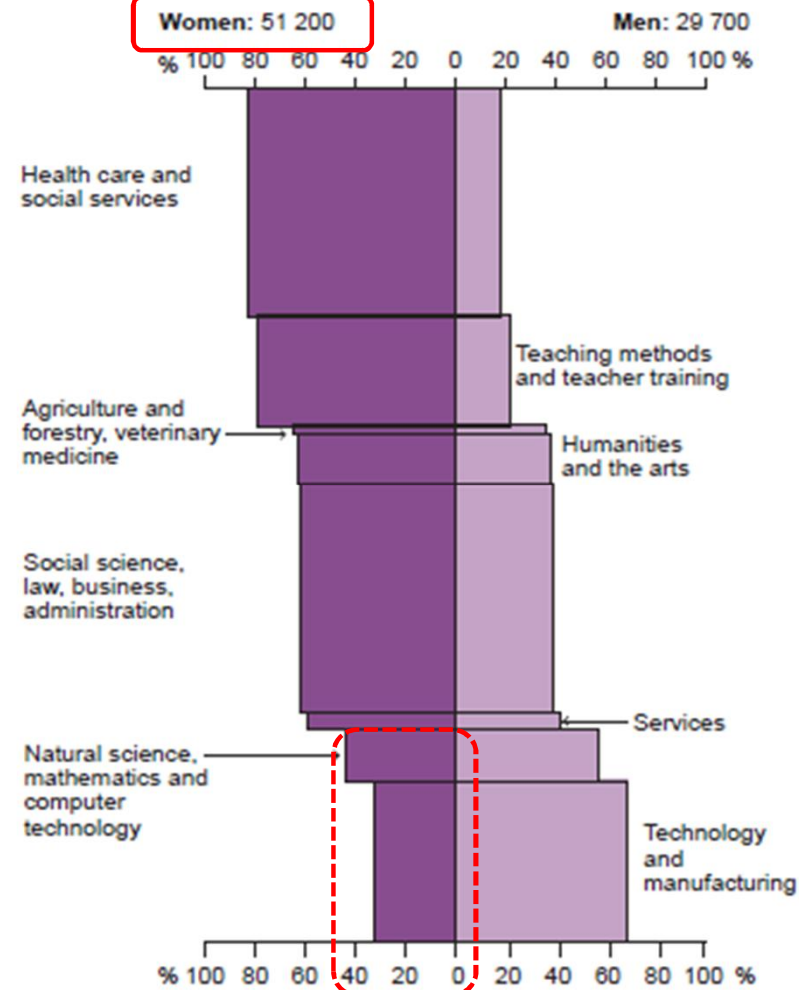
Average in Europe,
Women (2012):

37 % took PhD in Physics
16 % Top positions



Degrees at the undergraduate and graduate levels in higher education by field, 2014/15

Number and sex distribution (%)



Field of education according to the classification Swedish education nomenclature, SUN 2000 (1-digit level) Percentages refer to degrees awarded. A graduate person can receive multiple degrees in the same field.

Source: Swedish Higher Education Authority

Statistics Sweden Women and men in Sweden 31

Measures taken to retain women in Physics and support career development



- Leadership programs, mentorship – more women in leading positions (e.g., *Pöyry Sweden AB*, Energy sector)
- Support from university for women Docent or Professor (e.g., *Umeå*)
- At least one woman is required in Committees (VR, PhD, other Evaluations and Boards)
- 480 days (16 months!) of paid parental leave to all categories, incl. PhD students
- Experienced women support career development of younger women
- Equal distribution of household work

Conclusions

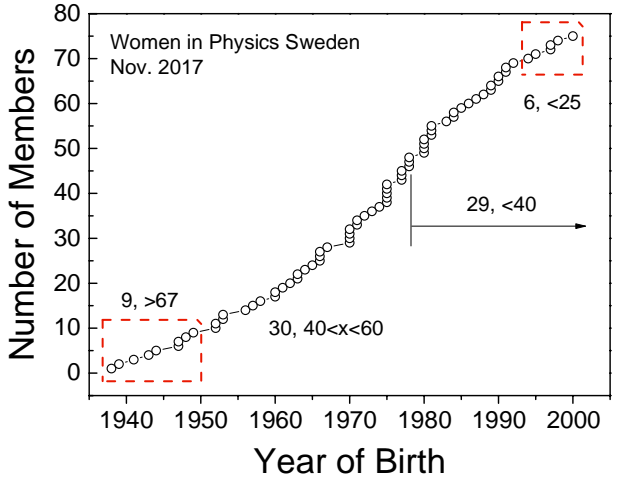
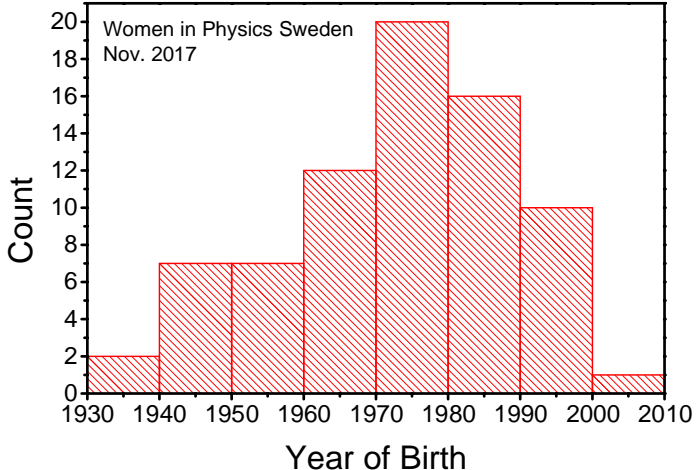
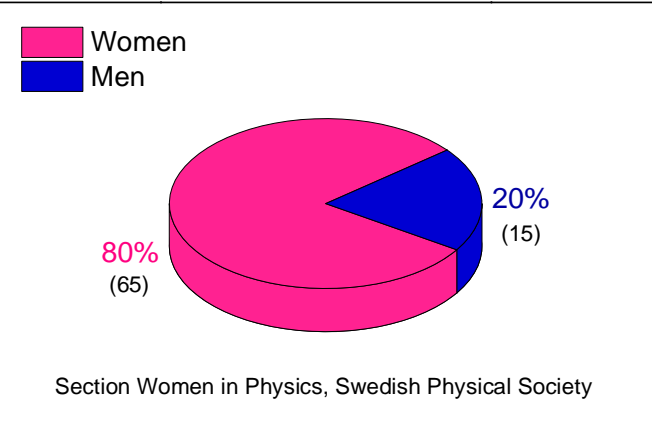
Is Sweden a fertile environment?

- The Swedish government strives to create conditions that give women and men same power, resources and opportunities – very high representation of women in Parliament
- Strong efforts towards gender equality
- Strong support to parents – but, equal support to whom is not a parent?

Action Plan – Involvement of:

- All categories of employees (Administration and PhD students are resourceful)
- Influential people
- More men
- Not only universities, but also private sector
- Local institutions (municipalities, foundations, associations,...)
- Local media

The Section "Women in Physics" within the Swedish Physical Society



ca. 75 members

The Swedish Board 2019-2022

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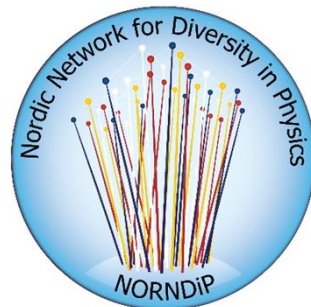
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Thank you for your attention!

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