

THE EQUALITY PARADOX IN FINNISH PHYSICS

Eija Tuominen, Hanna Vehkamäki, Katja Lauri
University of Helsinki



OUTLOOK

- **Finnish Women**
- **Finnish Women in Physics**
- **Why Diversity Matters**
- **How to Fight the Equality Paradox in Physics**
- **To remember: There are also many other dimensions in equality than gender!**

By the Finnish NORNDiP Board Members:

Eija Tuominen is director of Detector Laboratory @ Helsinki Institute of Physics

Katja Lauri is research director @ Institute for Atmospheric and Earth System Research

Hanna Vehkamäki is professor in computational aerosol physics and **vice dean of equality**



Institute for Atmospheric and Earth System Research



FINNISH WOMEN ARE EQUAL

- Finland is #2 in the global equality index.
- E.g., All the five political parties forming the Finnish Government are led by a woman.



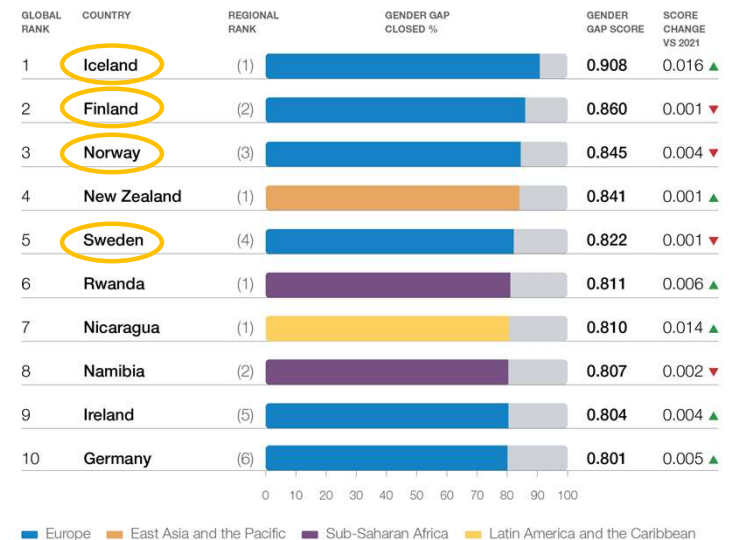
<https://www.is.fi/politiikka/art-2000006628100.html>

From left:
Minister of Justice Anna-Maja Henriksson,
Prime Minister Sanna Marin,
Minister of Finance Annika Saarikko,
Minister of the Environment and
Climate Change Maria Ohisalo,
Minister of Education Li Andersson

Global Gender Gap Index 2022

Global, Top 10

WORLD
ECONOMIC
FORUM



Source: Global Gender Gap Report 2022

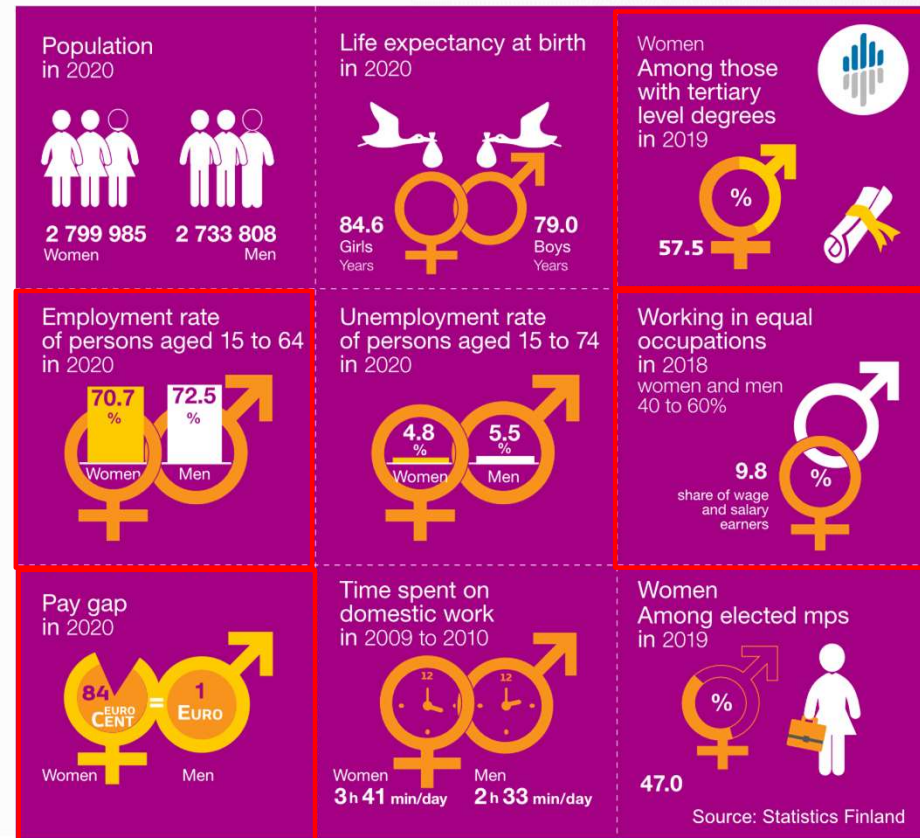
<https://www.weforum.org/agenda/2022/07/gender-equal-countries-gender-gap/>



ARE FINNISH WOMEN EQUAL?

Finnish women in working life:

- Education: women prevail
- Employment: ~same level
- Salary: woman's euro is 84 cents
- NOTE: Finnish working life is extremely divided between women's jobs and men's jobs

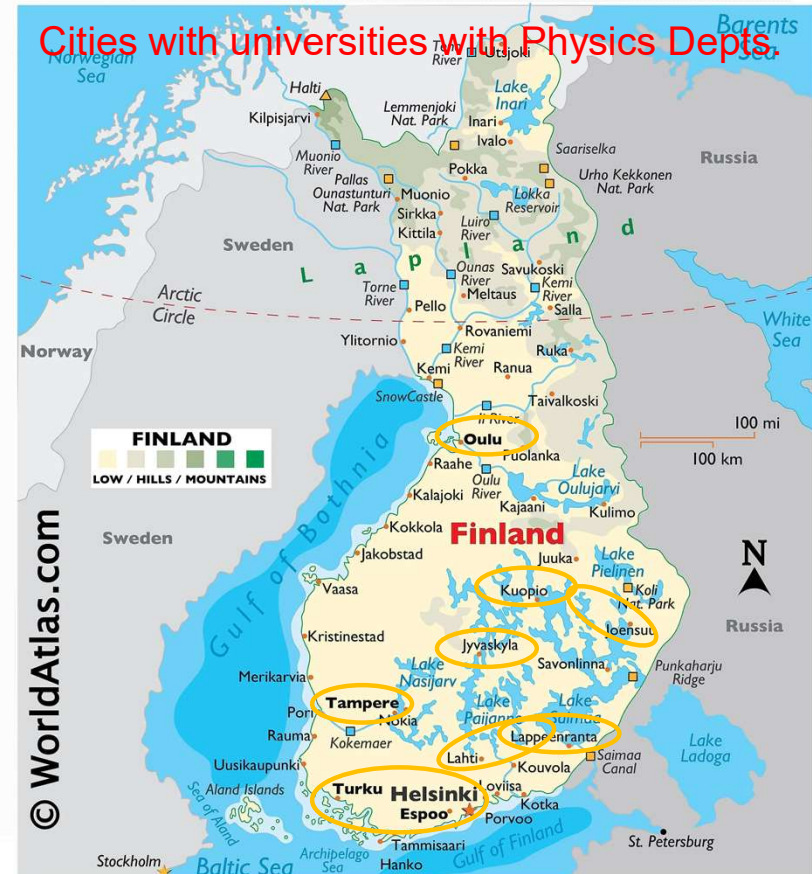


Source: Statistics Finland, Gender Equality in Finland 2021



WOMEN IN PHYSICS IN FINNISH UNIVERSITIES

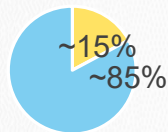
- **Data** about women in physics in Finnish universities is often or difficult to find. (“I did not reach the director and the HR did not dare to share the data.”)
- Luckily, many colleagues are actively working for diversity in physics in their universities.
- Special thanks to Imran Asghar (Aalto/Espoo), Miia Haikonen (Tampere), Anu Kankainen (Jyväskylä), Laura Karppinen (Helsinki), Panja Luukka (Lappeenranta-Lahti), Tuuli Miinalainen (Kuopio), Milica Todorovich (Turku) & many others.





WOMEN IN PHYSICS IN FINLAND

Members of the Finnish Physical Society @ 2021 (718 \downarrow)



■ Female ■ Male

FPS Board:

Members: 3/10 female \downarrow

Chair Mr. Matti Silveri

Vice-chair Mr. Daniel Price

FPS WG Diversity in Physics Finland

(e.g., gender session in FPS annual meeting)

Chair Mr. David Weir / Ms. Tuuli Miinalainen

~90 members in the mailing list

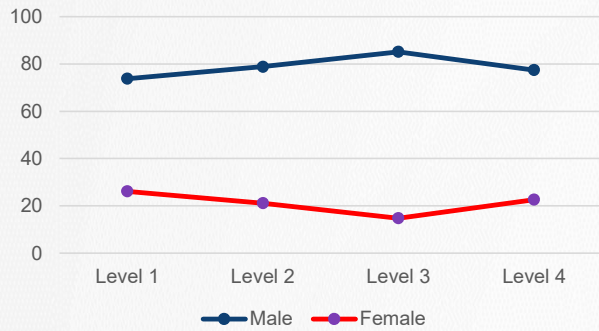
<https://blogs.helsinki.fi/diversityinphysics/>

UNIVERSITY	FEMALE FULL PROFESSORS	
Lappeenranta-Lahti University of Technology	1/4	25 %
University of Helsinki	7/31	23 %
University of Eastern Finland / Kuopio	2/13	15 %
University of Oulu	1/8	13 %
Aalto University	3/25	12 %
University of Turku	1/9	11 %
University of Jyväskylä	1/14	7 %
University of Tampere	1/14	7 %
Åbo Academi	0/2	0 %
University of Eastern Finland / Joensuu	0/12	0 %

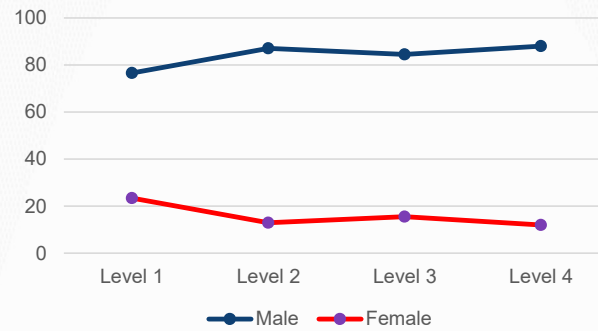


PHYSICS GENDER “TWEEZERS” IN SELECTED FINNISH UNIVERSITIES

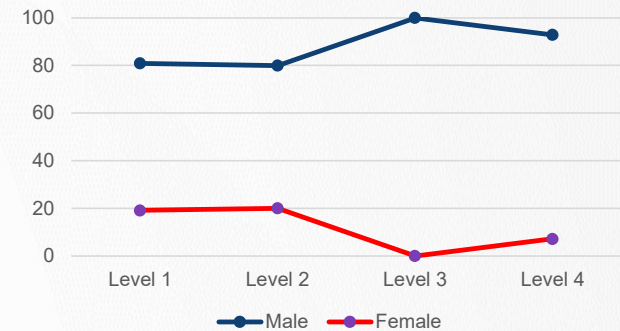
Helsinki Physics, n=221



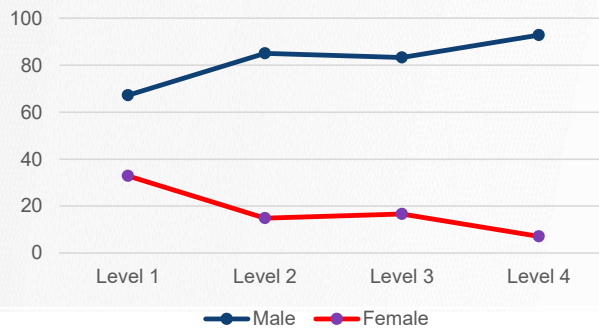
Aalto Physics [%], n=266



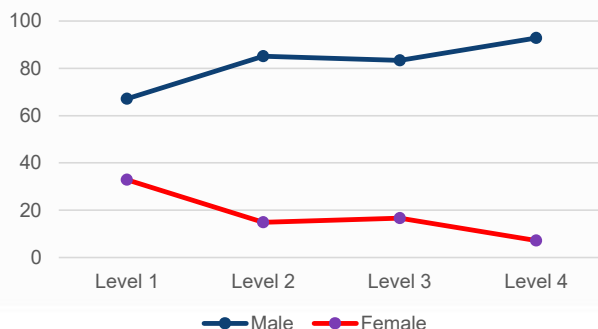
Jyväskylä Physics [%], n=149



Tampere Physics [%]



Kuopio Physics [%], n=113



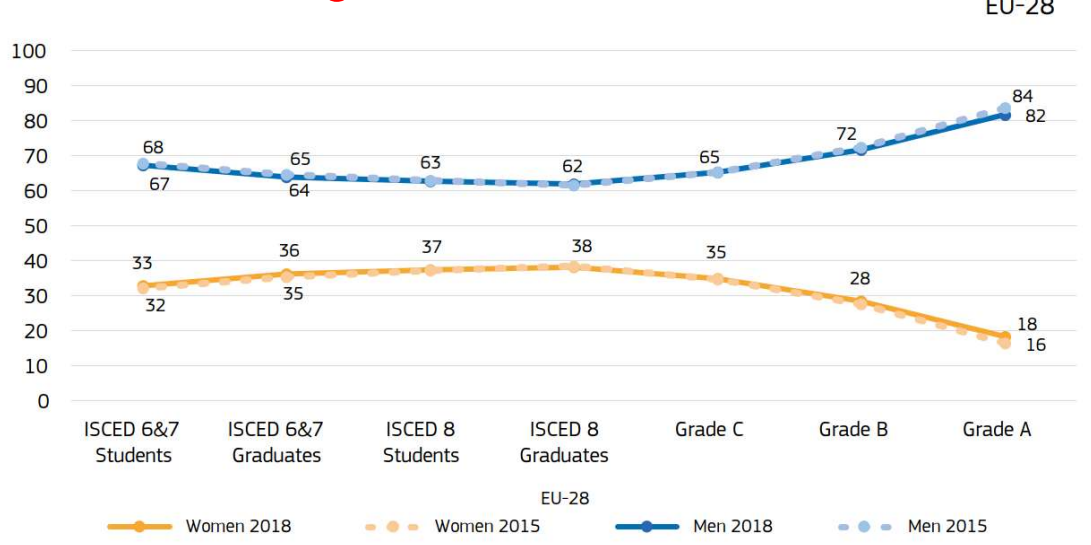
Barthelemy, R.S. and Knaub, A.V., 2020. Gendered motivations and aspirations of university physics students in Finland. *Physical Review Physics Education Research*, 16(1), p.010133: “Despite all of the positive aspects in Finland for women and for science education, our results suggest that Finnish female university students still face challenges that male students do not face.”



MEANWHILE IN EUROPE



EU She Figures 2021: Gender in STEM



https://ec.europa.eu/info/sites/default/files/research_and_innovation/strategy_on_research_and_innovation/documents/ec_rtd_shefigures-2021-report.pdf

Factors influencing women's career:

- 1. Hiring:** job advertisements, bias in recommendation letters, bias in recruitment
- 2. Working conditions:** less resources, less mentoring, lower salary, part time jobs
- 3. Career progression:** promotion, evaluation
- 4. Grants:** women's chances to receive grants are lower

Source: <https://www.leru.org/publications/implicit-bias-in-academia-a-challenge-to-the-meritocratic-principle-and-to-womens-careers-and-what-to-do-about-it>



WHY DIVERSITY MATTERS?

- 1. Diverse teams make better science**
 - Diverse teams bring in diverse experiences, practices, perspectives, values, and motivations
 - Diversity increases the quality of the process and effectiveness of scientific inquiry.
 - (Reference: abundancy of scientific studies.)
- 2. Everyone has right to equal opportunities**



https://greatergood.berkeley.edu/article/item/how_diversity_makes_us_smarter



SUMMARY

Diversity makes better science!

Increasing diversity needs actions!

Actions make difference!





BACK UP FILES



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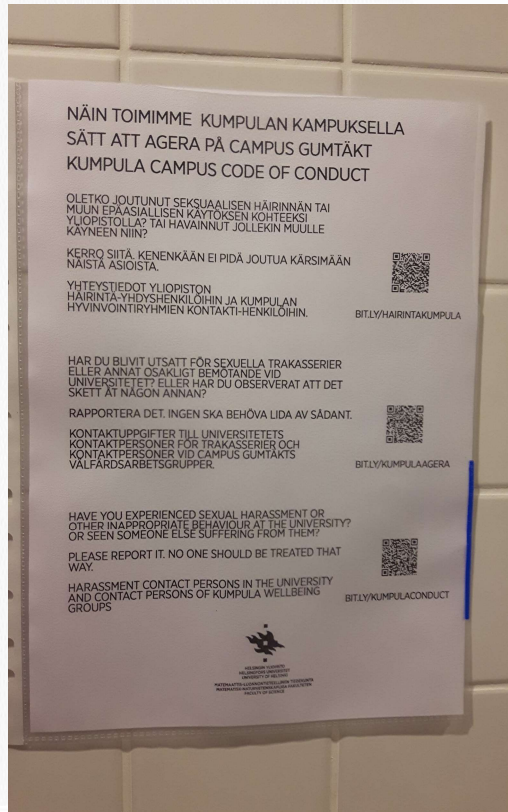
ACTIVITIES INCREASING DIVERSITY @ UNIVERSITY OF HELSINKI / SCIENCE

- **Active discussion**
 - Talks and presentations in meetings, colloquia, and lectures
 - Training events, e.g. about implicit bias and sexual harassment
- **Work well-being**
 - Well-being groups, low-threshold contact points, Code of Conduct
- **Networking, mentoring, role models**
 - Avoiding being “the only woman in the room”, avoiding “all-male-panels”
- **Work life balance**
 - Understanding family responsibilities, also in job announcements
- **Continuous collection of data**
 - Where we are and where we want to be





EXAMPLE: TOILET NOTES



- Helsinki Association of Women Researchers conducted a survey on sexual harassment (2018): the importance of low threshold contact was obvious (<https://blogs.helsinki.fi/tutkijanaiset/2019/01/17/how-to-erase-sexual-harassment-feedback-from-finnish-academia/>).
- Every toilet in Kumpula Campus has a note with contact information.
- An upset person can look for more information in a quiet place.



(Women in Technology (WIT) matters) <wit-matters@cern.ch>