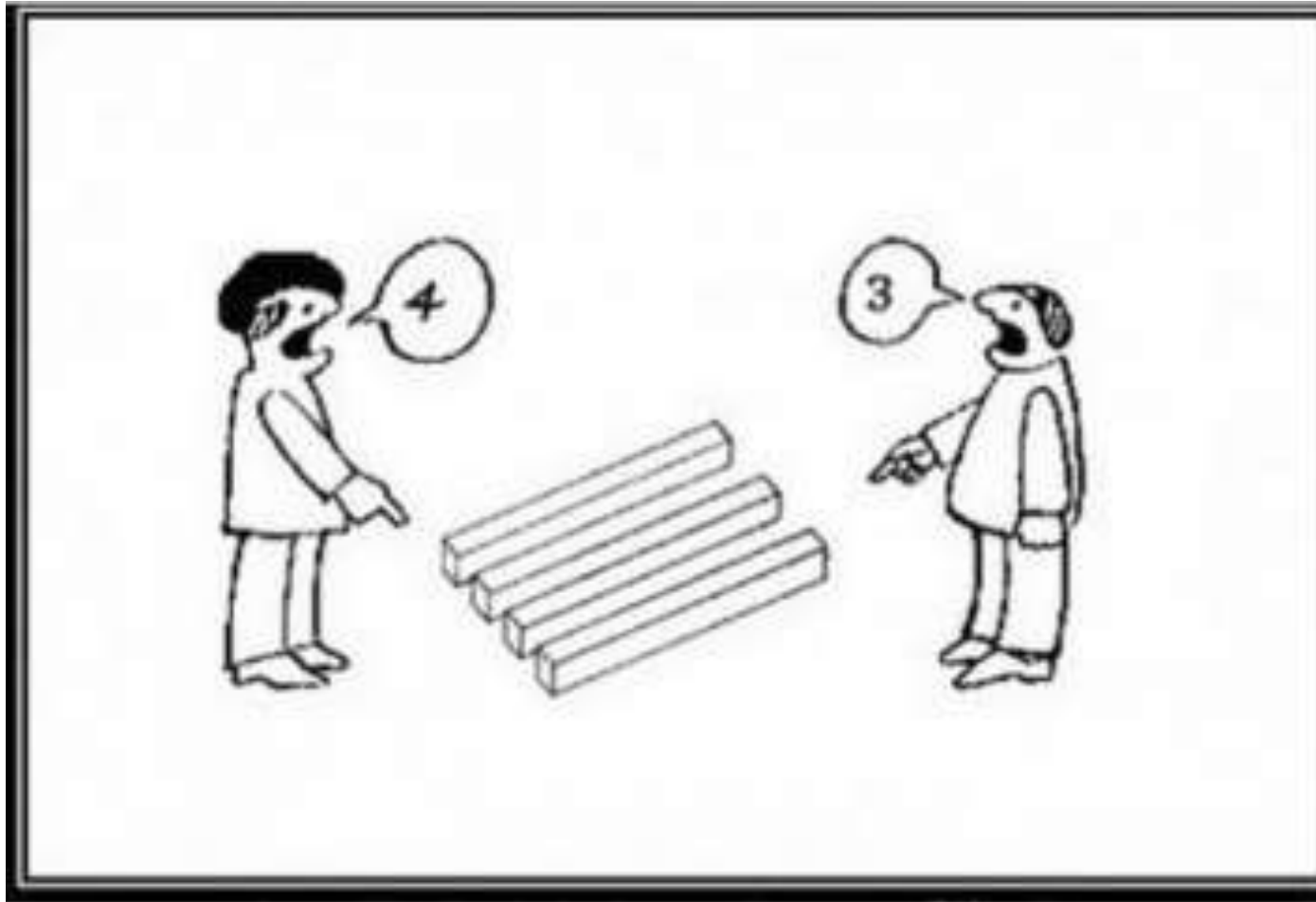


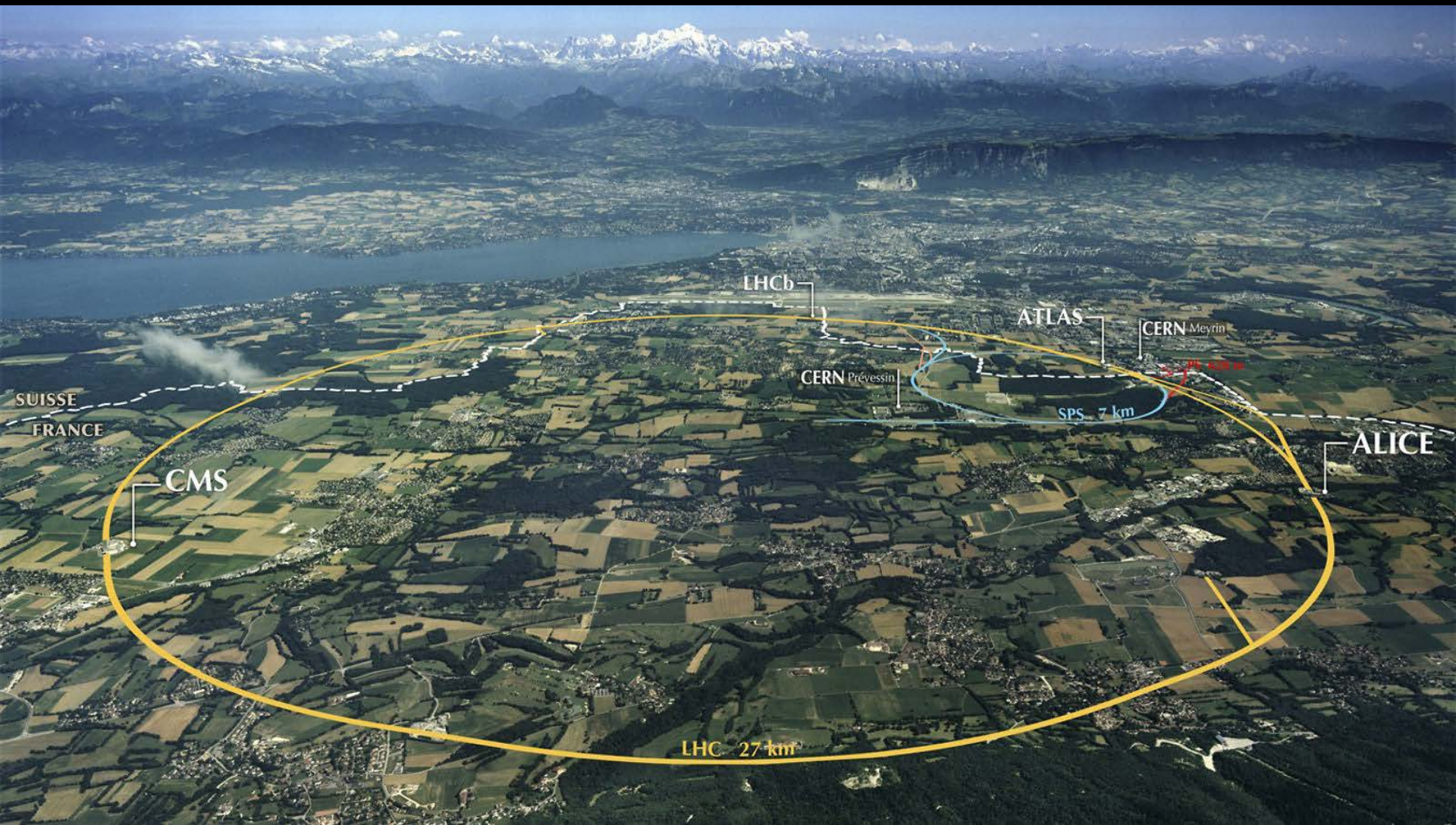
Favorire la parità di genere: cronache dall'interno

(esperimento LHCb al CERN)

Disclaimer

[aka percezione]







what? where?

LHCb is a particle physics experiment that studies high energy collisions produced by the Large Hadron Collider, at CERN. It is run by a large international collaboration, with participation from 19 different countries.

women in LHCb



LHCb experiment at CERN

who?

We have a total of 1383 members, of which 252 are women. From students to professors, women in LHCb participate in and lead projects in fields such as electronics, engineering, computing and data analysis.

why?

LHCb's mission is to uncover the mysteries of the universe by making precise measurements of known processes that may be sensitive to new particles. LHCb physicists are trying to answer many questions including why antimatter disappeared after the Big Bang, leaving us with a universe made almost entirely of matter.

from 2010 to 2020

women: 101 → 252
 members: 690 → 1383
 countries: 15 → 19
 institutes: 54 → 88

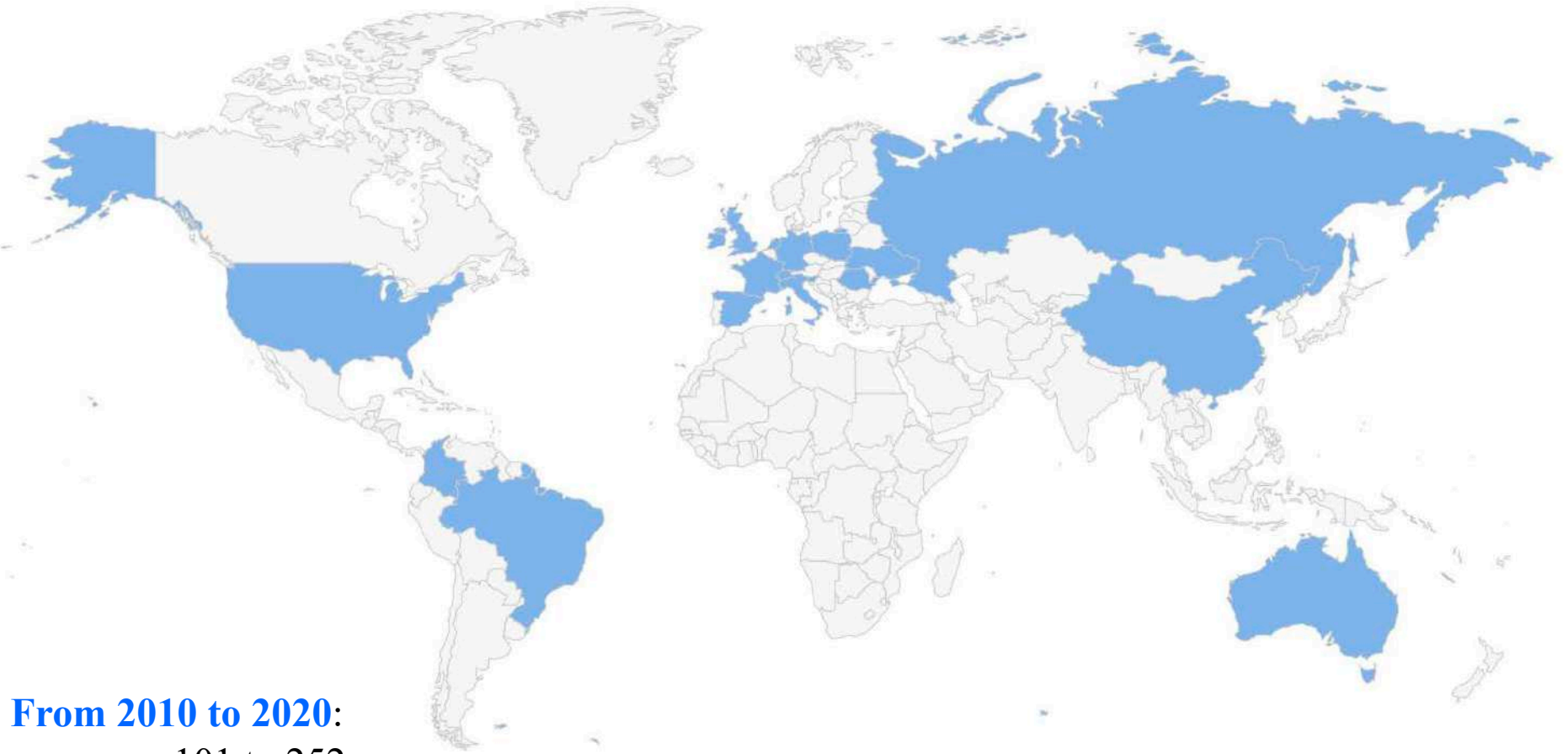
Number of women increased by a factor 2.5. Members in the collaboration doubled. Percentage of women increased from 15% to 18%. Four more countries and 29 more institutes joined the LHCb experiment.

when?

To celebrate International Women's day, we are sharing some photographs that give insight into the diverse experiences and passions of women in the LHCb experiment.

International Women's Day 08/03/2020

People in LHCb

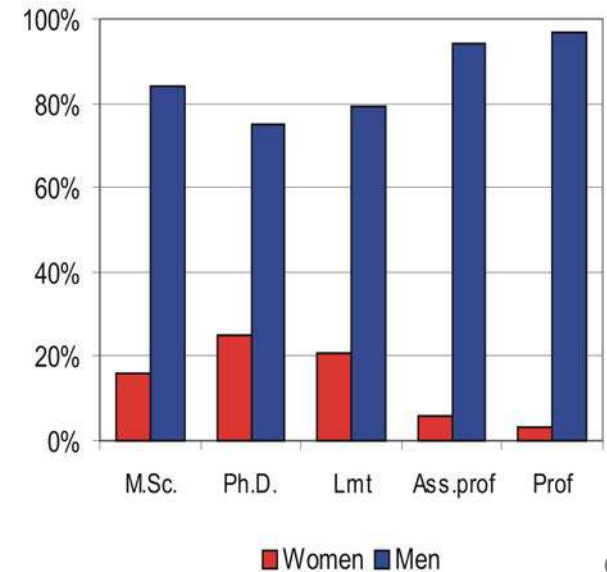
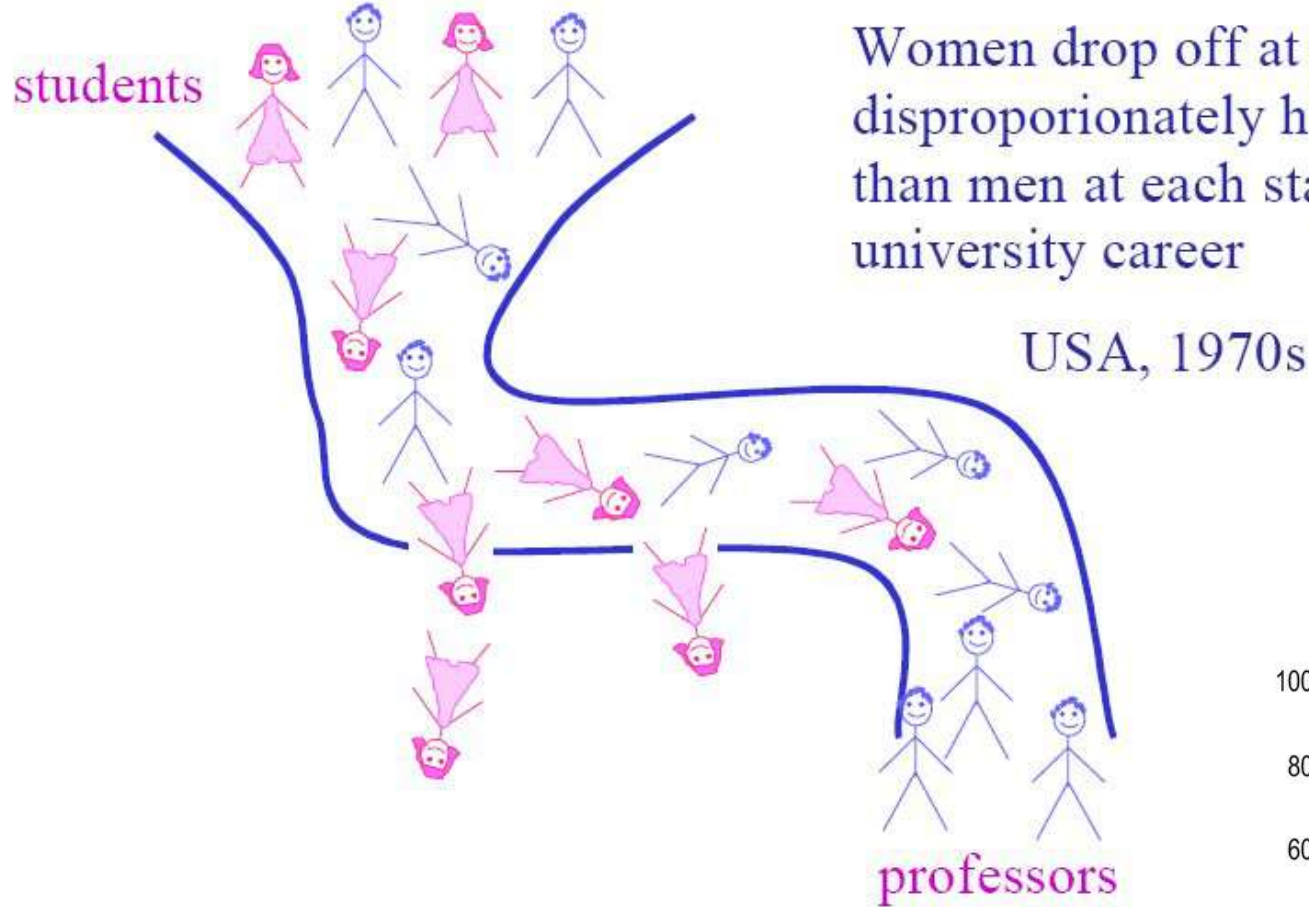


From 2010 to 2020:

- women 101 to 252
- members 690 to 1383
- countries 15 to 19
- institutes 54 to 88

Percentage of women from 16% (2010) to 18% (2020)

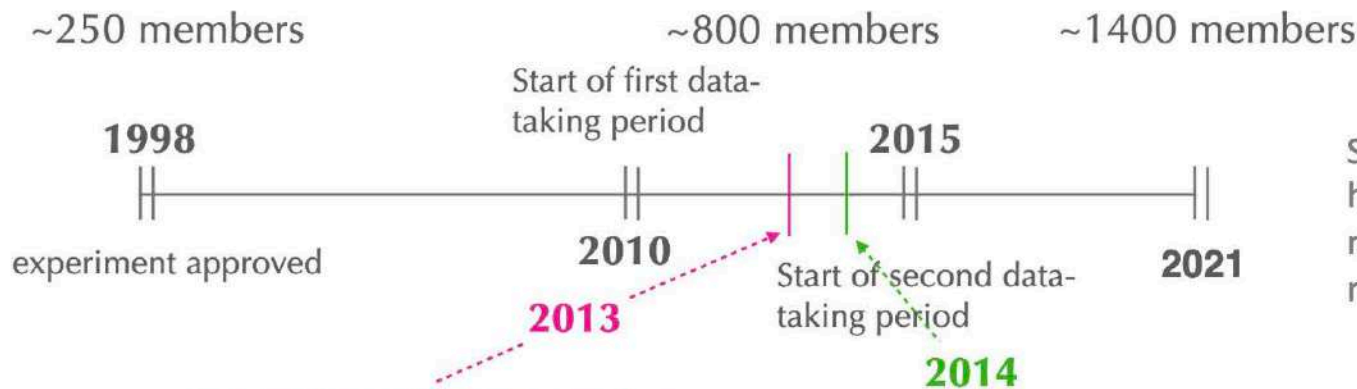
Il soffitto di cristallo?



A bit of history

[ECGD but not only]

Early Career, Gender and Diversity in a



Since 2014 a lot of improvements happened, thanks to a constant monitoring of the situation and more awareness.

Internal study into gender representation at LHCb

Summary of study:

- ▶ In 2013, 13% of LHCb scientists were female
- ▶ % of women decreases with age, retention issue?
- ▶ % of women much smaller in LHCb than ATLAS

ECGD office officially created

Explore ways of improving situation

The Early Career, Gender and Diversity (ECGD) Office oversees the well-being and working environment of all LHCb members.

from E. Smith, ICHEP 2020

4

A study of the gender of LHCb scientists in the period 1999-2013

V.V. Gligorov¹.

¹CERN, Geneva, Switzerland

Abstract

A study of the gender of LHCb scientists from 1999 to 2013 is presented. Women are found to account for $10.7 \pm 2.2\%$ of LHCb scientists in 1999 (26 out of 244 scientists), and $13.0 \pm 1.3\%$ in 2013 (107 out of 824 scientists), where the number of women is treated as a binomial efficiency and the uncertainty is computed accordingly. A small upward trend in the proportion of women appears to exist over this time period. The fraction of LHCb scientists which are women is found to have little sensitivity to the country of employment or scientist nationality, and no significant correlation is found between scientist gender and the proportion of time spent at CERN. On the other hand, women are found to be significantly underrepresented at the highest management levels, and the fraction of female LHCb users between the ages of 30 and 40 (mostly early stage postdocs) is roughly a factor two lower than the fraction of female LHCb users between the ages of 15 and 29 (mostly PhD students), indicating a problem with the retention of female scientists beyond their doctoral studies. The overall fraction of women on LHCb is significantly lower than on ATLAS. It is hoped that this study can serve as a constructive contribution to a conversation within LHCb about gender issues in high energy physics and possible proactive measures which could improve the current gender balance on the experiment.

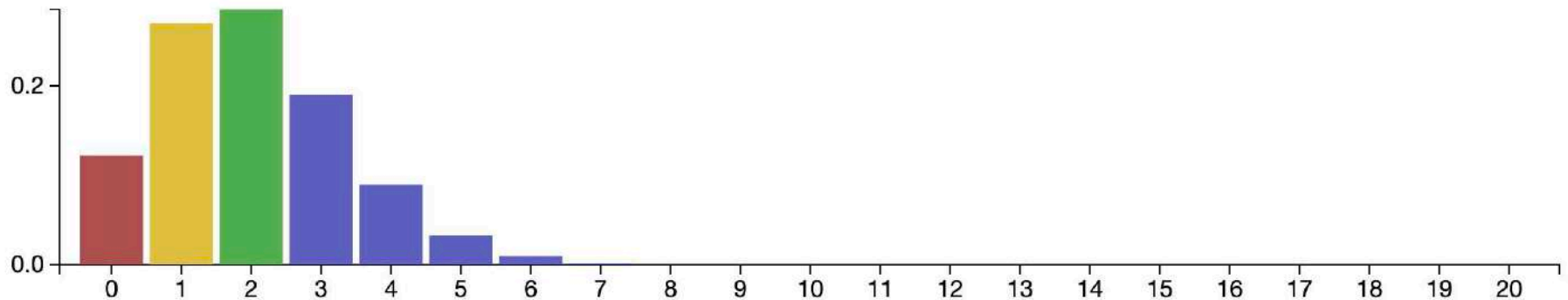
It is also possible to consider the current situation with leadership positions on the LHCb experiment. At the time of writing, LHCb has

- Zero women out of 24 project leaders or deputies;
- Two women out of twelve editorial board members;
- Eleven women out of 52 physics/tools working group or subgroup conveners;
- Zero women out of eight upper management members;
- Two women out of thirteen coordinators (safety, operations, ecs, etc.);
- Two women out of six speaker's bureau members.

Intermezzo: distribuzione casuale?

Conference Diversity Distribution Calculator

How many would you expect in a random selection of people, assuming they constitute % of available speakers?



This selection has:

- a **32%** chance of **over-representing women**
- a **29%** chance of **representing women exactly**
- a **12%** chance of **not representing women at all**

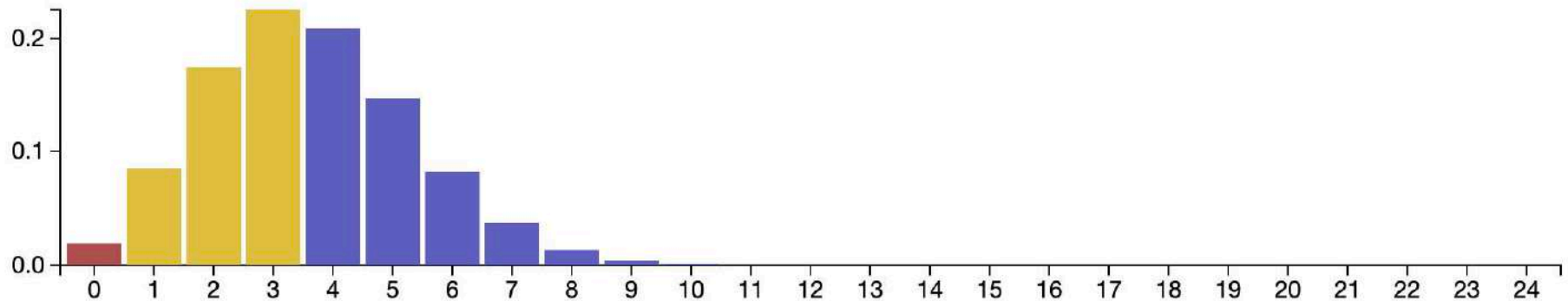
Over-representation is therefore about **2.7 times** as likely as no representation.

<https://aanandprasad.com/diversity-calculator/?groupName=women&numSpeakers=20&populationPercentage=10>

Intermezzo: distribuzione casuale?

Conference Diversity Distribution Calculator

How many would you expect in a random selection of people, assuming they constitute % of available speakers?



This selection has:

- a **50%** chance of **over-representing women**
- a **2.0%** chance of **not representing women at all**

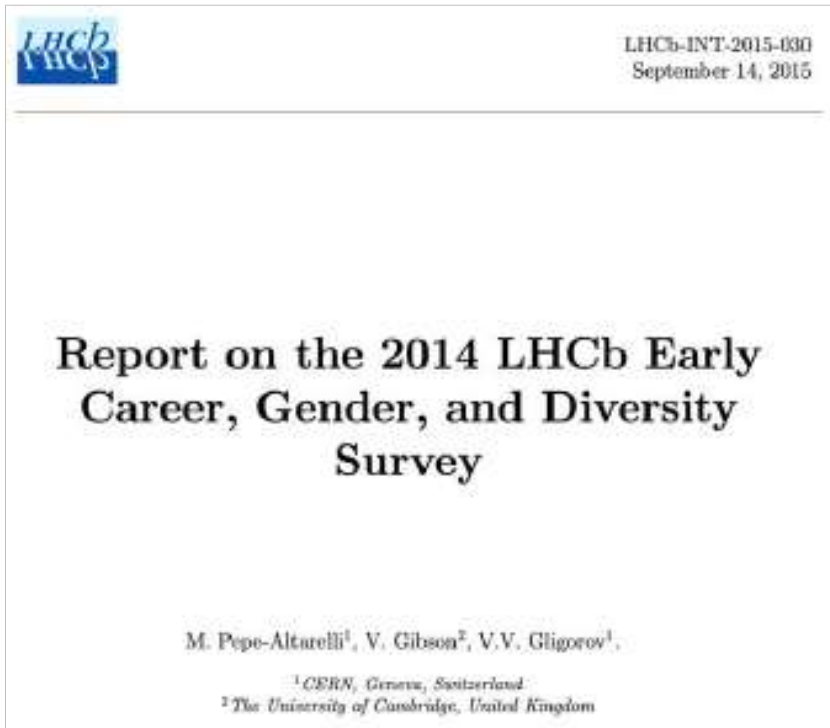
Over-representation is therefore about **24 times** as likely as no representation.

<https://aanandprasad.com/diversity-calculator/?groupName=women&numSpeakers=20&populationPercentage=10>

Quote rosa?



The (ECGD) prehistory



In total, 50 women, 128 men, and two persons who chose to not identify their gender filled in this survey. As the LHCb collaboration comprised 717 men and 107 women in 2013, this means that 22% of all LHCb scientists, and 47% of female LHCb scientists, completed the survey. The age and career stage of the respondents are shown graphically

Finally, we asked respondents about experiencing discrimination at the workplace. A substantial proportion of women, 30%, report being discriminated against, compared to 2% of men, while 20% of women and 25% of men report witnessing inappropriate language and behaviour. In this context, we note that 84% of LHCb scientists have never received

The (ECGD) prehistory

[Survey done in 2014!]

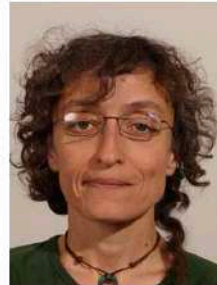
4.1 Experiences of discrimination

1. At the university level certain professors did not give undergraduate theses to women.
2. Done a better job than a male student and could answer all questions (the male none) and then being told that I am not capable of understanding physics and should quit.
3. Receiving worse marks, e.g. in lab reports: I had forgotten to close a paranthesis and the male students were not even considering systematics. Being told that women should stay at home and not even consider a job or a Phd in physics (“You don’t need to have a PhD for raising kids.”) etc;
4. During an undergraduate course, the lecturer said he’d make sure “no women programmers ever came out of my course”. There were other cases too, but I can’t remember now.
5. Explicitly told that achievements were because of gender (female);
6. I was told that I didn’t pass an exam because “I am a woman”.
7. It was only in the beginning of my studies: got lower marks (for the same group project and better exam notes) than my male colleagues. The professor admitted it and “sort of” apologised a few years later... his excuse was “I didn’t know you yet, so I thought you had copied from the others...”
8. Repeatedly: My male colleagues getting the credit for work that I did.
9. I have heard few times: You are woman, You cannot be right.
10. A senior member indicated they were resistant to hire a woman for a post-doc position as she could possibly become pregnant
11. After hours parties have had some inappropriate things said of a sexual harassment nature, not to me but I’ve witnessed it.

“per far sì che il male trionfi, tutto ciò che serve è che bravi uomini (e brave donne!) non facciano niente” Edmund Burke

Barbara Sciascia

October 2014 - December 2016



Jonas Rademacker

October 2014 - December 2016

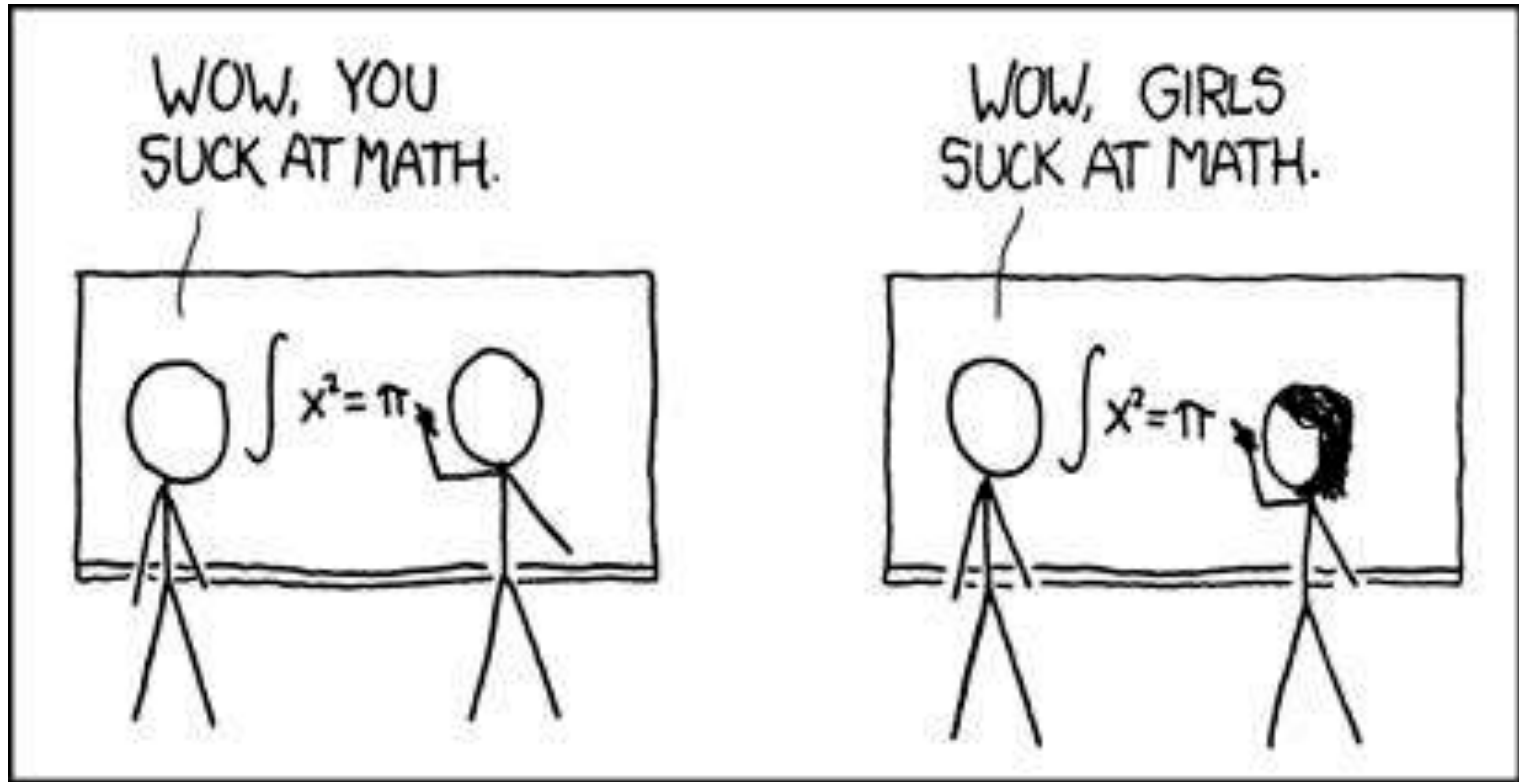




(Not only) maternity leave

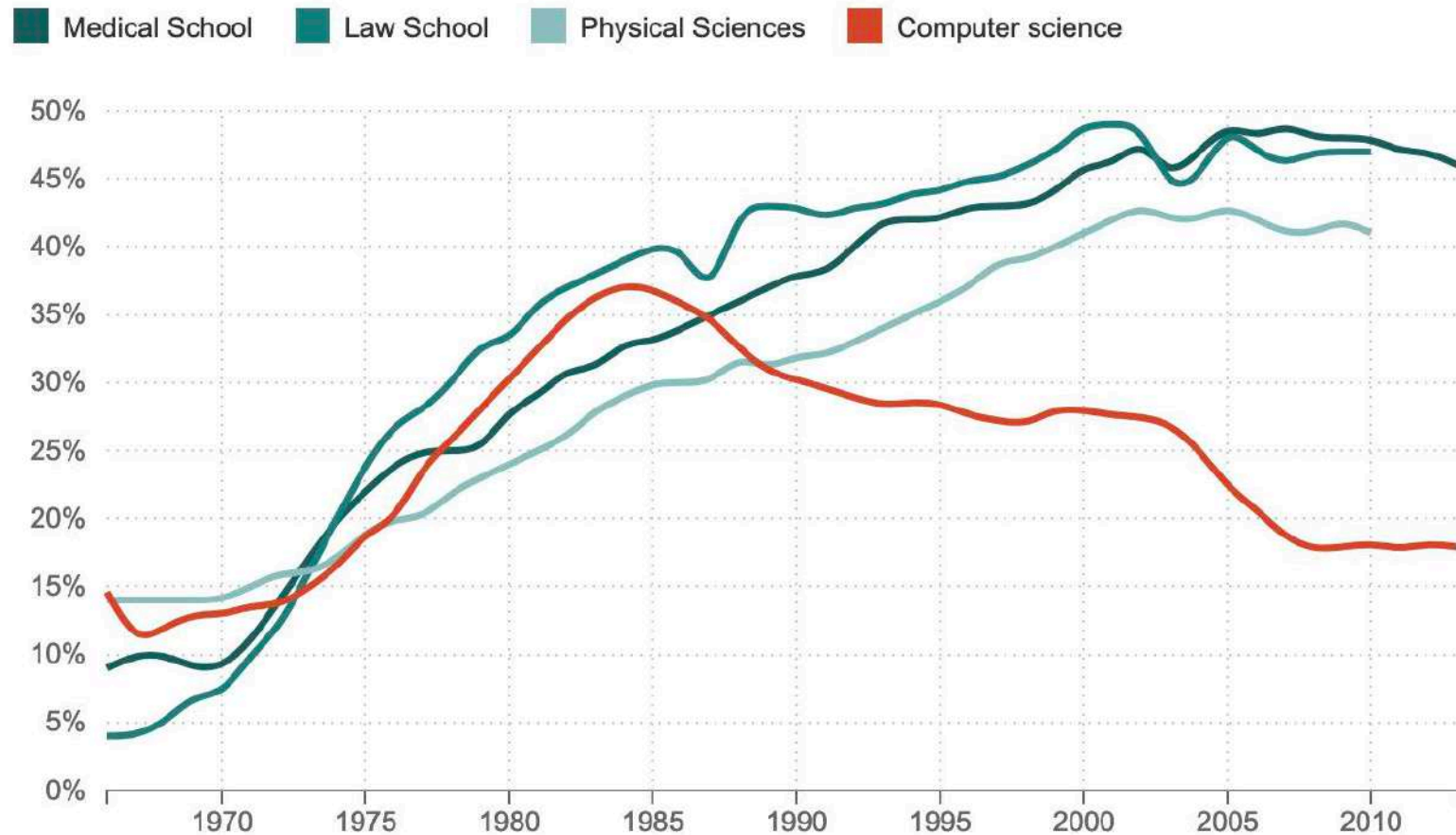


<https://xkcd.com/385/>



What Happened To Women In Computer Science?

% Of Women Majors, By Field



Source: National Science Foundation, American Bar Association, American Association of Medical Colleges
Credit: Quoctrung Bui/NPR

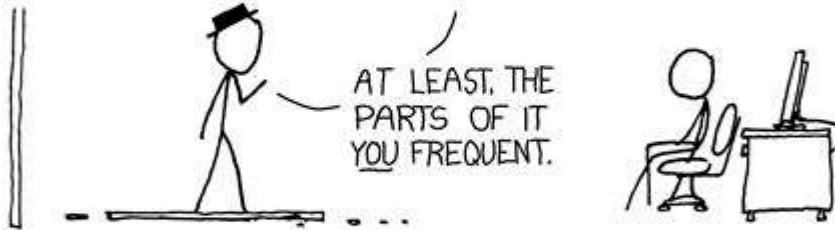
Programmatrici!

HI. I'M HERE ABOUT THE GIRL WHO VISITED YOUR IRC CHANNEL LAST NIGHT LOOKING FOR JAVA HELP.



WHAT DID YOU DO TO MY DOOR?

WHEN SOMEONE WITH A FEMININE USERNAME JOINS YOUR COMMUNITY, AND YOU SAY "OMG A WOMAN ON THE INTERNET" AND 'JOKINGLY' ASK FOR NAKED PICS, YOU ARE BEING AN ASSHOLE. YOU ARE NOT BEING IRONIC. YOU ARE NOT CRACKING EVERYBODY UP. YOU ARE THE NUMBER ONE REASON WOMEN ARE SO RARE ON THE INTERNET.



AT LEAST, THE PARTS OF IT YOU FREQUENT.

AS SOMEONE WHO LIKES NERDY GIRLS, I DO NOT APPRECIATE THIS. I'M HERE TO BAN YOU FROM THE INTERNET. THE GAL BEHIND ME WITH THE EMP CANNON IS JOANNA - SHE'LL BE ASSIGNED TO YOU FOR THE NEXT YEAR. TRY TO GO ONLINE AND SHE'LL MELT YOUR PC.



DUDE, SHE'S HOT. IS SHE SINGLE?

JOANNA, FIRE.

Intermezzo: test yourself!



Project Implicit®

Project Implicit

PROJECT IMPLICIT SOCIAL ATTITUDES

Log in or register to find out your implicit associations about race, gender, sexual orientation, and other topics!

 E-mail Address

LOGIN

REGISTER

Or, continue as a guest by selecting from our available language/nation demonstration sites:



United States (English)

GO!

PROJECT IMPLICIT HEALTH

Find out your implicit associations about exercise, anxiety, alcohol, eating, marijuana, and other topics!

GO!

PROJECT IMPLICIT FEATURED TASK

Project Implicit is thrilled to introduce a collaboration with interdisciplinary artist and activist Bayeté Ross Smith to create two Implicit Association

Tests based on the Race Attitudes IAT and Race Weapons IAT.

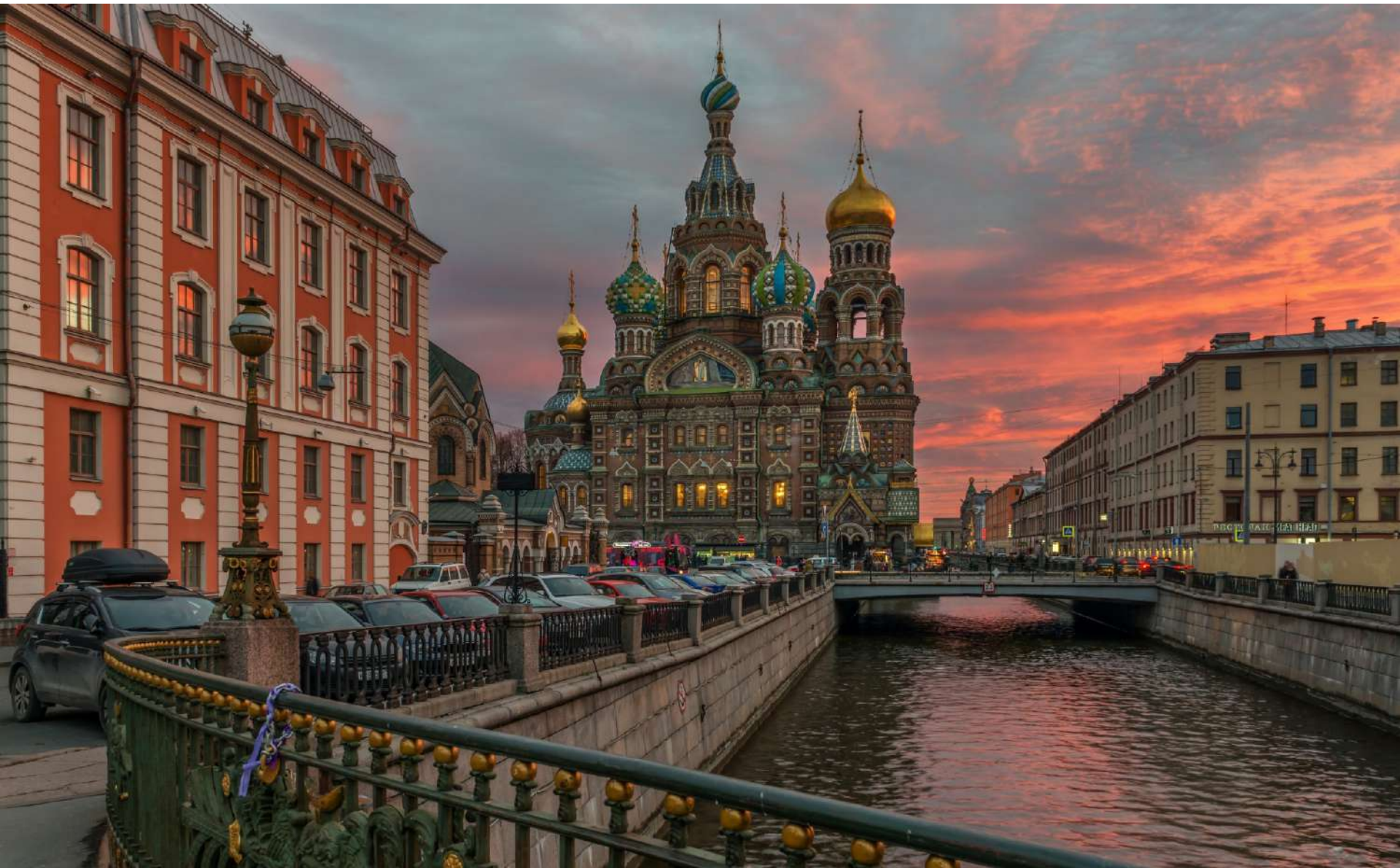
GO!

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

Brave come.. un maschio!

One early [study](#) evaluated postdoctoral fellowship applications in the biomedical sciences and found that the women had to be 2.5 times more productive than the men in order to be rated equally scientifically competent by the senior scientists evaluating their applications. The authors concluded, "Our study strongly suggests that peer reviewers cannot judge scientific merit independent of gender. The peer reviewers over-estimated male achievements and/or underestimated female performance." The study finds that "gender discrimination of the





<https://istitutosantachiara.it/la-sindrome-dellimpostore/>
https://it.wikipedia.org/wiki/Sindrome_dell%27impostore
https://it.wikipedia.org/wiki/Laura_Bassi

Impostor syndrome

[Laura Bassi initiative (not ECGD)]

Questo fenomeno venne osservato per la prima volta nel 1978 dalle psicologhe Clance e Imes in un gruppo di donne studentesse e professioniste che, nonostante i loro successi, non furono in grado di interiorizzare un senso di sé come competenti e talentuose.

Da ricerche successive è emerso che **il fenomeno si riscontra in molte persone, uomini e donne che hanno una formazione superiore e ricoprono ruoli di alto grado in diversi settori, tra cui istruzione, sanità e finanza** (Arena & Page, 1992; Byrnes & Lester, 1995; Crouch, Powell, et al., 1991; Parkman & Beard, 2008).

Peter Clarke



Professor P Clarke,

Position
Professor

Category
Academic staff

Location
James Clerk Maxwell Building (Room 3421)



- Barbara Sciascia (INFN) -

Figure 6.15: Overall sexual harassment since the age of 15 and in the 12 months before the interview across occupational groups (%)^a



Note: ^a Out of all women who gave details of occupation (n = 41,676; information on occupation was missing for 326 cases).
 Source: FRA gender-based violence against women survey dataset, 2012

What happens if

LHCb (by means of the ECGD office) action
in case of sexual harassment complaint

J. Rademacker, B. Sciascia

About sexual harassment in LHCb

(difficult to find a nick/nice name for this,
so we stay with it)

prepared by: R. Aaij, S. Malde,
C. Prouvé, J. Rademacker, B. Sciascia,
J. Serrano, R. Vazquez Gomez

Einstein to Mrs Curie

Prague, 23 November 1911

Highly esteemed Mrs. Curie,^[1]

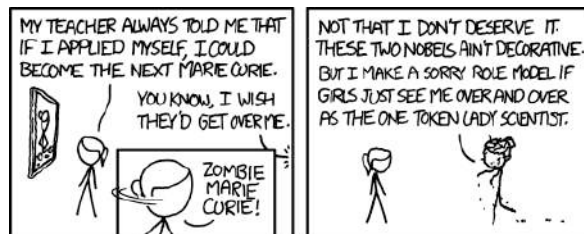
Do not laugh at me for writing you without having anything sensible to say. But I am so enraged by the base manner in which the public is presently daring to concern itself with you^[2] that I absolutely must give vent to this feeling. However, I am convinced that you consistently despise this rabble, whether it obsequiously lavishes respect on you or whether it attempts to satiate its lust for sensationalism! I am impelled to tell you how much I have come to admire your intellect, your drive, and your honesty, and that I consider myself lucky to have made your personal acquaintance in Brussels. Anyone who does not number among these reptiles is certainly happy, now as before, that we have such personages among us as you, and Langevin^[3] too, real people with whom one feels privileged to be in contact. If the rabble continues to occupy itself with you, then simply don't read that hogwash, but rather leave it to the reptile for whom it has been fabricated.

With most amicable regards to you, Langevin, and Perrin,^[4] yours very truly,

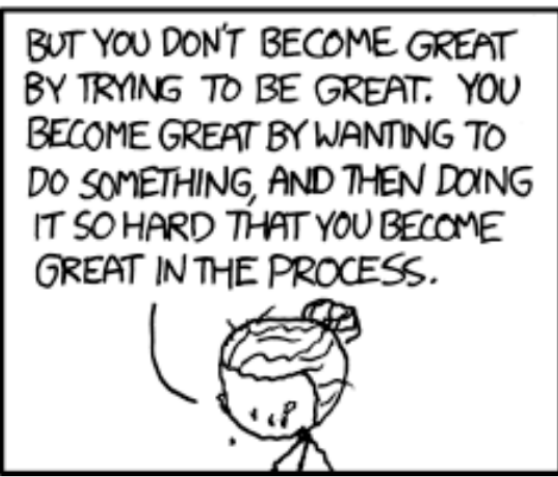
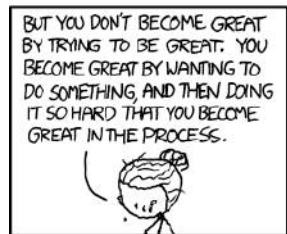
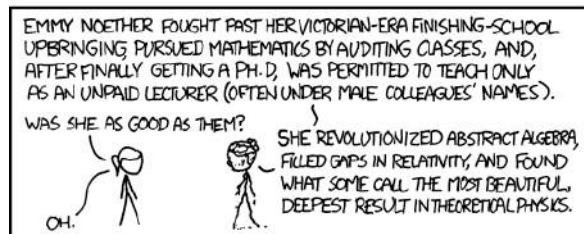
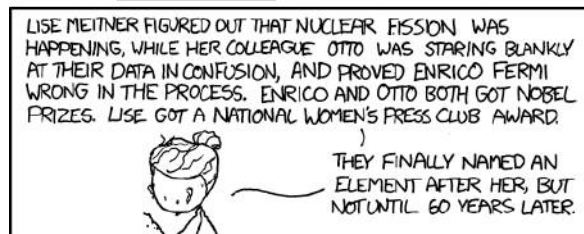
A. Einstein

P.S. I have determined the statistical law of motion of the diatomic molecule in Planck's radiation field by means of a comical witticism, naturally under the constraint that the structure's motion follows the laws of standard mechanics. My hope that this law is valid in reality is very small, though^[5]

...also, avoid Radium!



NOT THAT I DON'T DESERVE IT. THESE TWO NOBELS AIN'T DECORATIVE. BUT I MAKE A SORRY ROLE MODEL IF GIRLS JUST SEE ME OVER AND OVER AS THE ONE TOKEN LADY SCIENTIST.



<https://xkcd.com/896/>



Referenze e approfondimenti

- <https://genitoricrescono.com/discorso-emma-watson-onu-femminismo/>
- <https://www.heforshe.org/en>
- https://www.ted.com/talks/sheryl_sandberg_why_we_have_too_few_women_leaders
- https://www.ted.com/talks/reshma_saujani_teach_girls_bravery_not_perfection
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- the story of Marie Tharp <https://www.mentalfloss.com/article/60481/how-one-womans-discovery-shook-foundations-geology>
- Cattive programmatrici? <https://www.npr.org/sections/money/2014/10/21/357629765/when-women-stopped-coding>
- Il gioco del rispetto <http://narrazionidifferenti.altervista.org/il-rispetto-non-piace/> forse?
- i maschi più geni? Uso dei commenti da parte dei prof. <https://www.timeshighereducation.com/news/large-rate-my-professor-study-finds-gender-bias-comments>
- Effetto degli stereotipi per le donne in fisica <https://physics.aps.org/articles/v9/87>
- E se il professore si innamora della studentessa? <https://aeon.co/essays/why-is-scientific-sexism-so-intractably-resistant-to-reform>
- Dati <https://ourworldindata.org/economic-inequality-by-gender>
- #MeToo in scienza? Non ancora! <https://www.nationalgeographic.com/magazine/article/sexual-harassment-science-me-too-essay>
- <https://fra.europa.eu/en/publication/2014/violence-against-women-eu-wide-survey-main-results-report>