Elisa Giovannetti
Pisa
Testimonianza
Incipit

“Two X chromosomes represented an insurmountable barrier to enter university and realize my talents”
R. Levi-Montalcini
Nobel prize 1986

“Physics invented and built by men, it's not by invitation. Curie etc. welcomed after showing what they can do, got Nobels... A. Str...., CERN
October 2018

...if we want to get science out there and improving people’s lives, that needs to have contributions from both men and women
My grandmother was the first who taught me life lessons about the importance of studying...
Despite significant improvements in recent decades, education is not universally available and **gender inequalities persist**.

The **2030 Agenda for Sustainable Development**, adopted by the United Nations (UN) General Assembly in September 2015, calls for a new vision to address the environmental, social and economic concerns facing the world today, including 17 Sustainable Development Goals (SDGs), including **SDG 4** on education and **SDG 5** on gender equality.
Only 17 women have won a Nobel Prize in physics, chemistry or medicine since Marie Curie in 1903, compared to 572 men.

Today, **only 28% of all of the world’s researchers are women**

Such huge disparities, such deep inequality, do not happen by chance.

Too many girls are held back by discrimination, biases, social norms and expectations that influence the quality of education they receive and the subjects they study.

Girls’ under-representation in science, technology, engineering and mathematics (STEM) education is deep rooted and puts a detrimental brake on progress towards sustainable development.

We need to understand the drivers behind this situation in order to reverse these trends.

*From “Cracking the code: Girls’ and women’s education in science, technology, engineering and mathematics”*
The conflict

Factors influencing girls’ and women’s participation, progression and achievement in SCIENTIFIC education

1. Individual-level factors
2. Family- and peer-level factors
3. School-level factors
4. Societal-level factors
Research on biological factors, including brain structure and development, genetics, neuroscience and hormones, shows that the gender gap in STEM is not the result of sex differences in these factors or in innate ability.

Individual-level factors

Girls’ decisions about their studies and careers are influenced to a great extent by psychological factors, which affect their engagement, interest, learning, motivation, persistence and commitment in STEM.

A recent US study found that stereotypes associating high level intellectual capacity and ‘genius’ with males are internalized by children as young as six years old.
Girls have lower **self-efficacy** in science than boys, except in health-related topics.

Awards for women in science are extremely Important.
Family & School-level factors (Role models)

Female teachers have a positive effect on girl’s enrolment in STEM while male teacher have a negative effect.
Societal-level factors

VIDEO
CHERCHEZ LA FEMME – Donne & MEDIA

100 donne contro gli stereotipi

https://www.produzionidalbasso.com/project/cherchez-la-femme-100-donne-contro-gli-stereotipi/
Interventions that help

- **Individual level**: interventions to build children’s spatial skills, self-efficacy, interest and motivation among girls to pursue STEM studies and careers;

- **Family and peer level**: interventions to engage parents and families to address misconceptions about sex-based, innate abilities, to expand understanding of STEM educational opportunities and careers, and to connect families to educational advisers to build STEM pathways, as well as peer support;

- **School level**: interventions to address teachers’ perceptions and capacity, to develop and deliver gender-responsive curricula, to implement gender-neutral assessments;

- **Societal level**: interventions to social and cultural norms related to gender equality, gender stereotypes in the media, and policies and legislation.

*International Day of Women and Girls in Science, 11 February*
The career path

A key figure presented at CERN was the total number of citations that researchers accumulate since the publication of their 1st paper:

... but if we plot the number of citations for active researchers only (i.e., authors who have >5 papers in total, and who have published a paper in the last 3 years), we see no noticeable difference between men and women (backreaction.blogspot by Sabine Hossenfelder)

This is in agreement with the well-known fact that the majority of physicists drop out of academic careers and women are more likely to drop out (the “leaky pipeline”)

“Let me tell you about my trouble with girls. Three things happen when they are in the lab: you fall in love with them, they fall in love with you, and when you criticize them they cry”

Sir Tim Hunt (Nobel prize in Medicine in 2001), resigned from UK University after this talk (Singapore, 2015)
Data from the Dutch Network of Women Professors (Landelijk Netwerk Vrouwelijke Hoogleraren – LNVH), a network of over 1300 female professors which aims to promote the proportionate representation of women in academia.
In oncology

Contribution (number of publications) of Dutch men and women to international literature on oncology

Development of impact scores (average of normalized journal impact) of contributions by men and women to Dutch oncological literature

**MASTERCLASS IN ONCOLOGIA**
LEADERSHIP DECLINATA AL FEMMINILE: LA GESTIONE DEI CONFLITTI

18 GIUGNO 2019, ROMA
UNAHOTELS HOTEL DECO’
... my way ("not really rocket science", but hopefully some useful tips...)

I have always felt strongly that work must be as rewarding as the other life components. My career was based on enthusiasm, hard work and luck.

To achieve balance between the workplace and home, my husband and I share responsibility for the care of our child. In this way we have both continued to develop our careers.

(By chance) I had a child after I had gained some funding, publications and a research group. This worked well for me because I was initially spending long hours in the laboratory. Now I spend most time managing my research group, writing proposals and publications (experimental work is not as flexible as managing. Writing, planning, etc.. can be done at all times of day and night).

Throughout my career, one of my greatest pleasures has been in working with students, post-docs and colleagues, seeing them develop and enjoying the science they generate.

When I am facing a conflict I always think that I will find a solution (alone... but I am aware that “working together would bring to the POLITICAL SOLUTION”)
SEE THE HORIZON OVER THERE? SEE HOW BIG THIS WORLD IS? SEE HOW MUCH ROOM THERE IS FOR EVERYBODY?