

# Diversity at Work & Gender Equality

Genevieve Guinot & Ioanna Koutava, CERN Diversity Office  
EASITrain, March 2018

[cern.ch/diversity](https://cern.ch/diversity)  
email: [hr-diversity-info@cern.ch](mailto:hr-diversity-info@cern.ch)



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# Today...

## **1. How does the brain function?**

Do biases and stereotypes affect us?

## **2. Diversity & Diversity management**

Why is it important?

## **3. A Focus on Gender Equality**

in Education, Research and STEM

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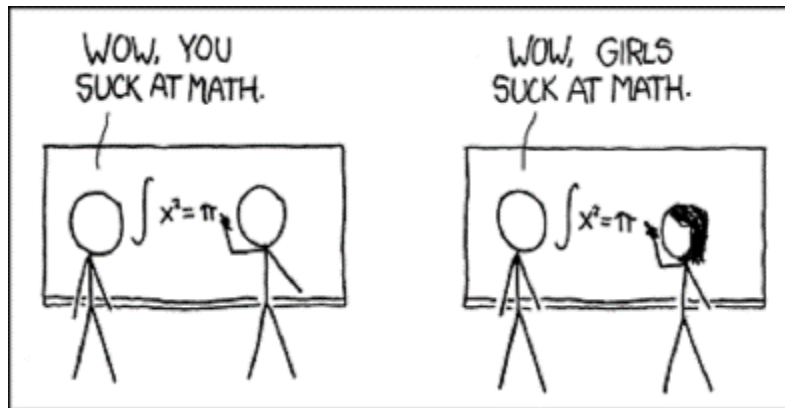
# Unconscious bias

- Affinity bias: We tend to relate more easily to people who are like us
- Halo Effect: Our overall impression of a person influences performance evaluation
- Confirmation Bias: Individuals tend to search for, interpret, focus on and remember information in a way that confirms their preconceptions
- Stereotyping: Expecting a member of a group to have certain characteristics without having actual information about that individual

# Stereotypes

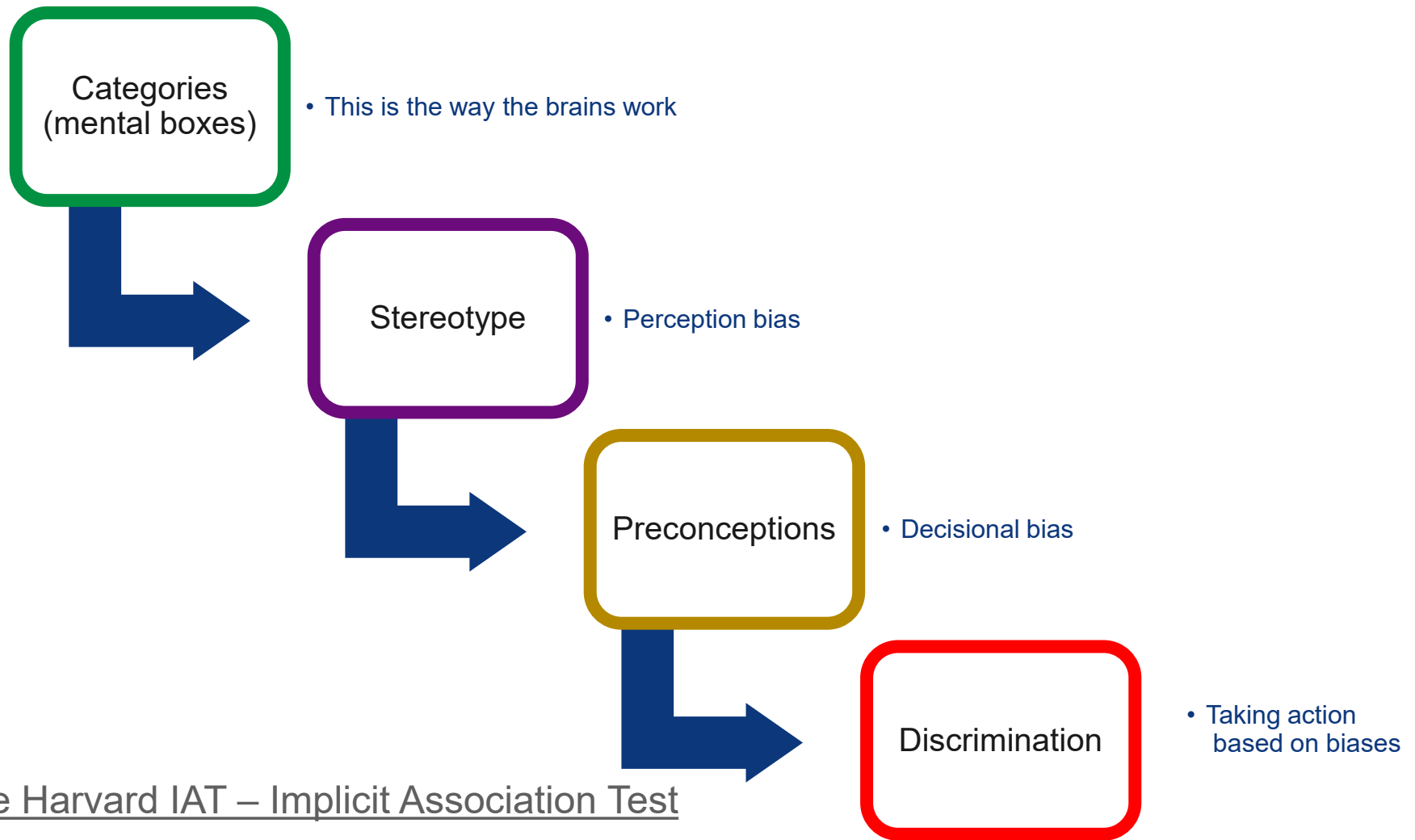
- Cognitive method our mind uses **to simplify information**
- A method of understanding; works through **classifying individuals into a group category**
- Can be negative or positive, accurate or inaccurate...
- Concern opinion, personal traits, ways of life, physical aspects...

→ It is the **unjustified stereotypes** that cause most concern



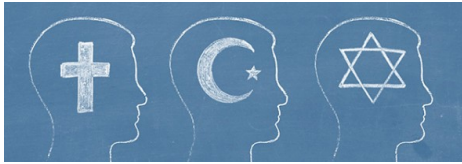
self-fulfilling prophecy

# Highway to discrimination



The Harvard IAT – Implicit Association Test

# Study-based on “assumed religion”



Esther



Michel



Nathalie



Mohammed



Samira



Dov

Same age: 25

Same last name: Haddad

Same country of birth: Lebanon

Same nationality: French

Same Bachelor or equivalent : Accounting

How many CV do they need to send before a call back for an interview ?

Michel  5

Nathalie  4

Dov  7

Esther  5

Samira  6

Mohammed  20



# How do we make decisions?

## SYSTEM 1 THINKING

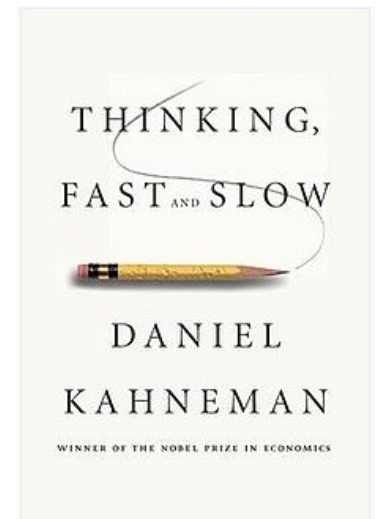
### Automatic system

- ❑ *Effortless*
- ❑ *Impression, feelings*
- ❑ *Uncontrolled, Fast*
- ❑ *Prone to visual illusions*
- ❑ *Jump to conclusions*

## SYSTEM 2 THINKING

### Reflective system

- ❑ *Effortful*
- ❑ *Conscious decision*
- ❑ *Problem solving*
- ❑ *Thinks statistically*
- ❑ *Can be invoked to control biases*



Daniel Kahneman, *Thinking fast and slow*

# Exercise time...

# Today...

## 1. How does the brain function?

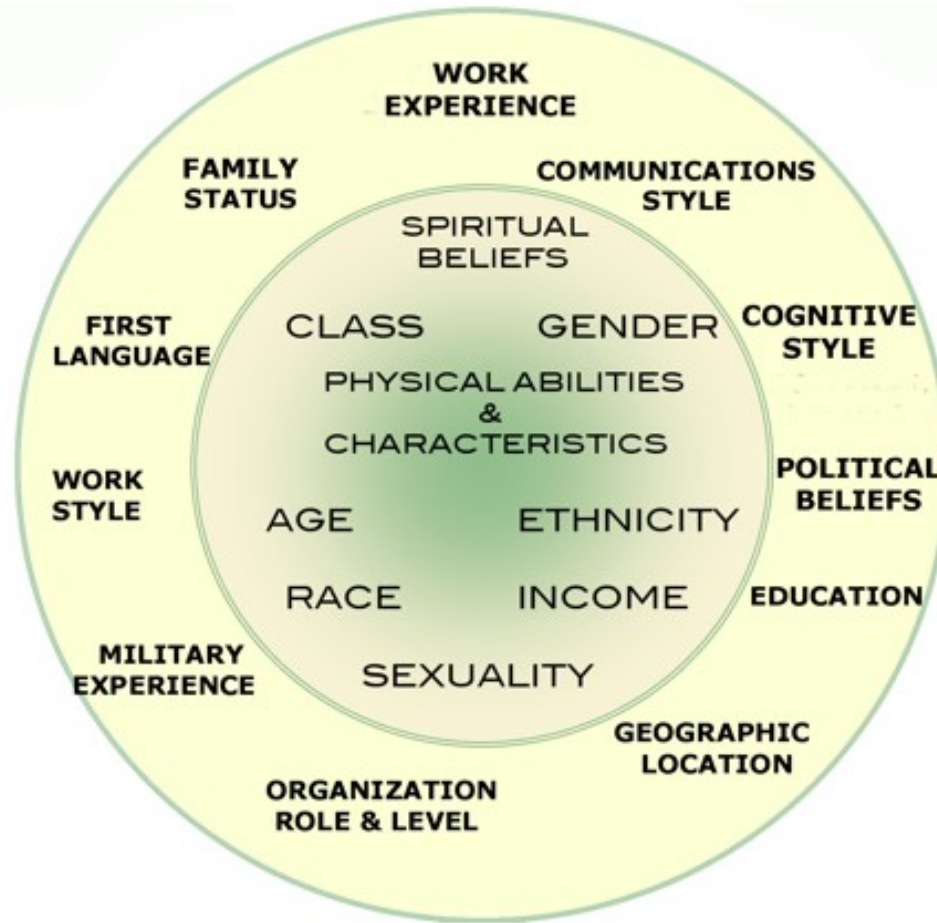
Do biases and stereotypes affect us?

## 2. Diversity & Diversity management Why is it important?

## 3. A Focus on Gender Equality in Education, Research and STEM

# Dimensions

Primary and secondary levels

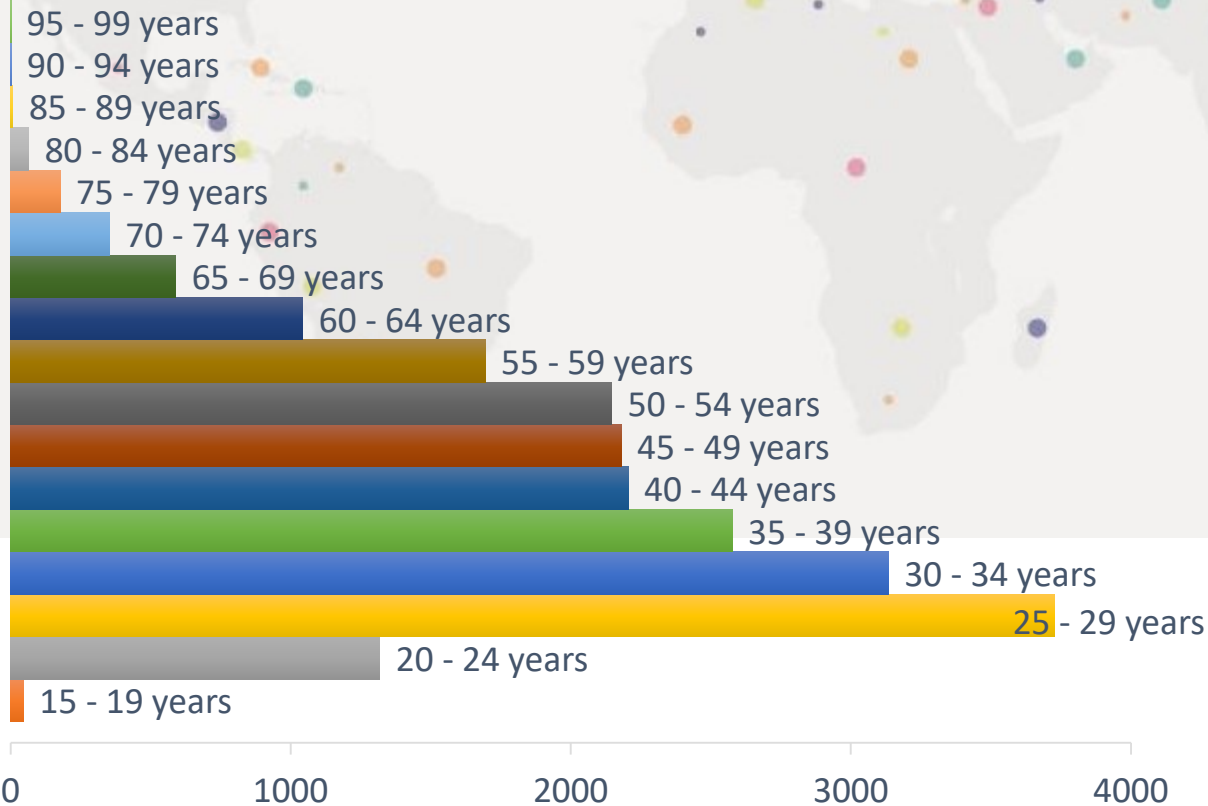
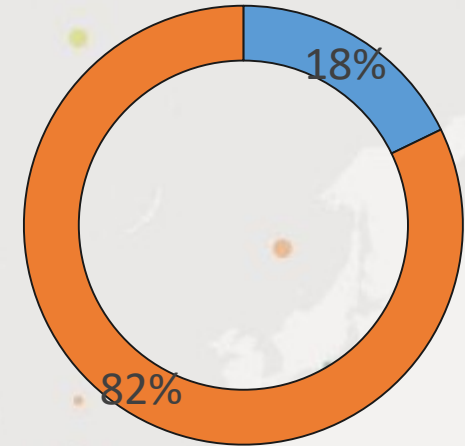


Loden associates inc

# Diversity at CERN

Female

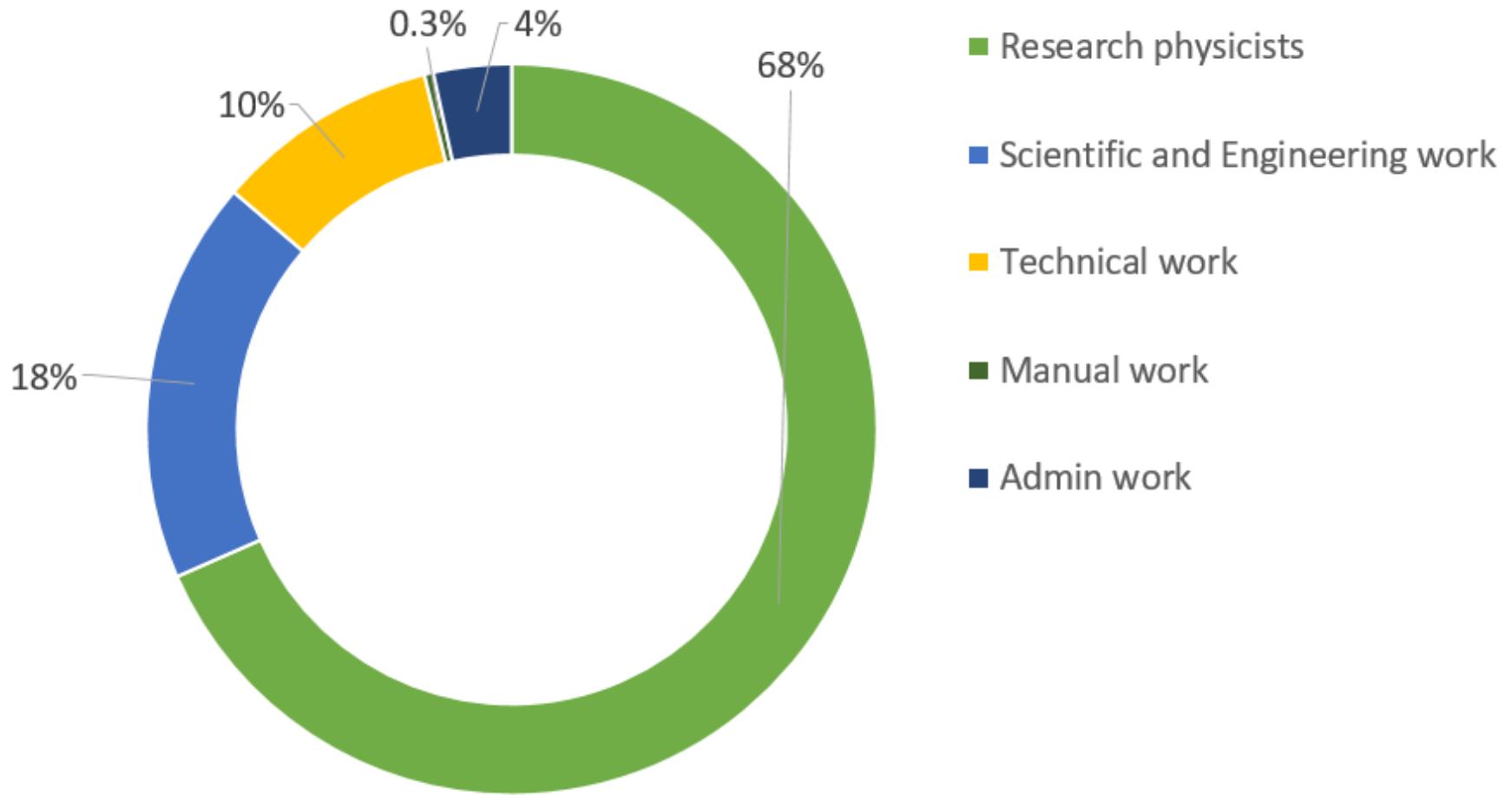
Male



- ~ 2500 Staff Members
- ~ 700 Fellows
- ~ 400 Students & Trainees
- ~ 12000 Users
- ~ 4500 Employees of contractors



# Diversity at CERN – The professions



CERN Annual Personnel Statistics 2016  
Members of Personnel, MPA training excluded

# Diversity at CERN – The professions

0.3% 4%

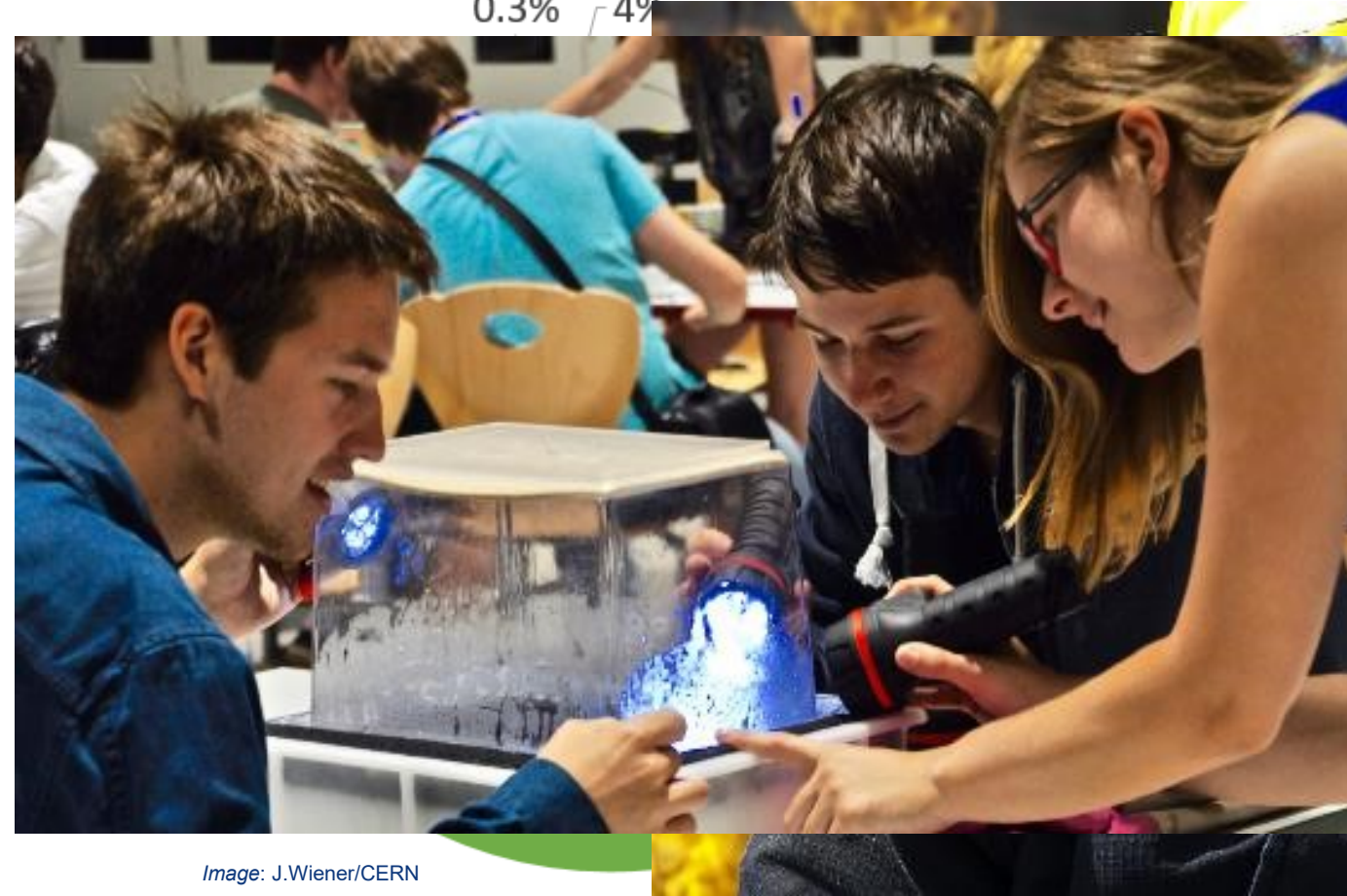


Image: J.Wiener/CERN

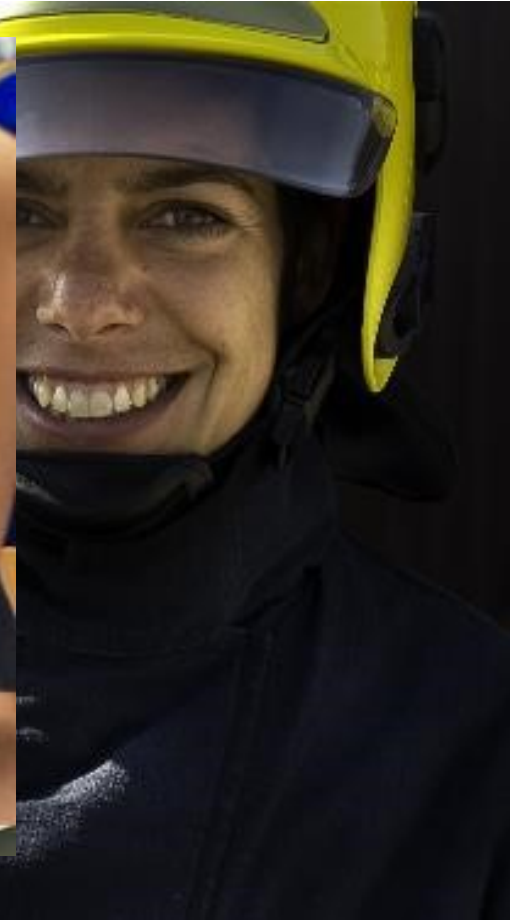


Image: M.Brice/CERN

CERN Annual Personnel Statistics 2016  
Members of Personnel, MPA training excluded

# Equal Opportunities

Moral, social and legal perspectives

## United Nations

Declaration of Human Rights, 1984

- All human beings are born free and equal in dignity and rights
- Everyone has the right to education; higher education shall be equally accessible to all

## 2016: The UN SDGs

among them...

- Good health and well-being
- Quality Education
- Industry, Innovation and Infrastructure
- Peace, Justice, and Strong Institutions
- Partnerships for the goals
- Gender Equality





# Equal Opportunities

Moral, social and legal perspectives



## Legislative measures

- Countries may employ measures; these include e.g. **gender or special needs-related quotas**
- At CERN: No quotas, no positive discrimination

## 2016: The UN SDGs

among them...

- Good health and well-being
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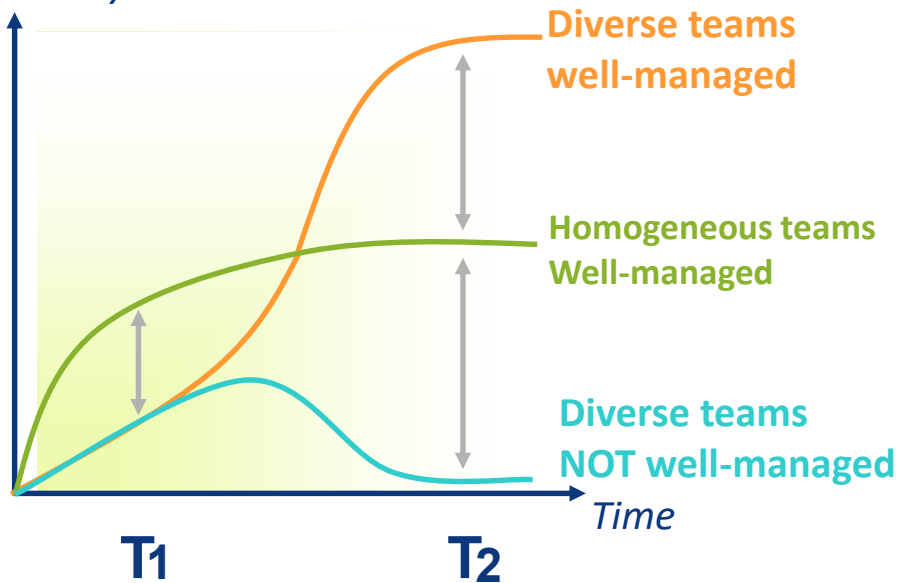


# Diversity

## Impact on performance

Forming > Storming > Norming > Performing

Productivity



Graph: QED Consulting



## Why ? How does this apply in STEM?

- Larger talent pool
- Diversity fosters **innovation and creativity** through a greater variety of problem-solving approaches, perspectives, and ideas.

# Inclusion

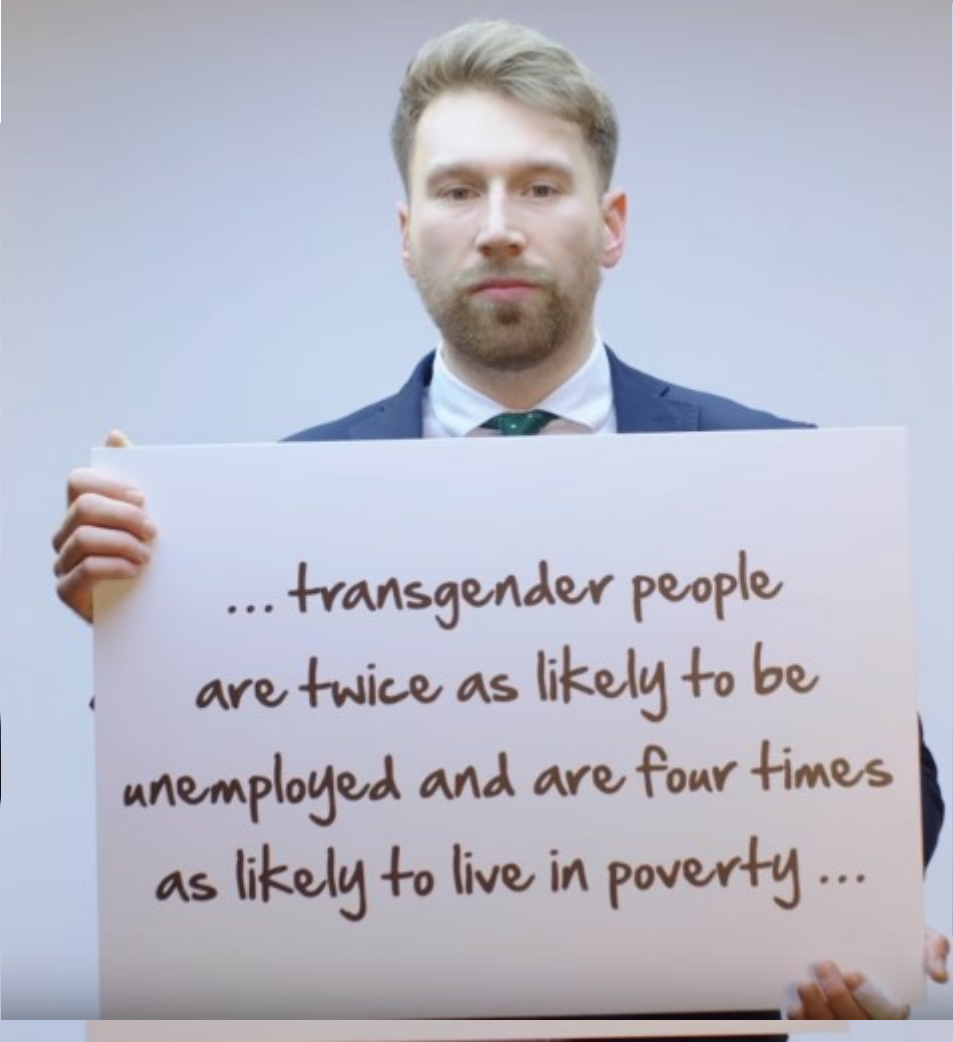


## Don't have to hide your


- **Sexual orientation** in a male dominated environment
- **Education** in a knowledge intensive environment
- **Age** in a culture where positive values are attributed to young people
- **Disability** in an environment based on physical performance.

*Dutch Anti-Discrimination Campaign Asks: Should You Have To Hide The Real You To Be Accepted? 2009  
Advertising Agency: imagine', Amsterdam, Netherlands  
Art Director: Sander Jacobs  
Copywriter: Sander Bergmeijer*

# Inclusion



... transgender people  
are twice as likely to be  
unemployed and are four times  
as likely to live in poverty ...



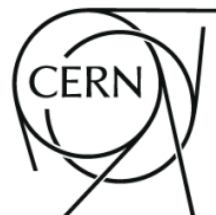
It's the annoyance when  
people presume I am less  
committed to my family life,  
because I am a man ...

Campaign by Accenture

# What to do then?

- **RESPECT:**

treating others as they wish to be treated;



- **INCLUSION:** making certain everyone on the team is truly a part of the team decision-making process;

- **COOPERATION:** actively helping others succeed rather than compete or attempting to one-up someone;

- **RESPONSIBILITY:** managing personal behavior to maintain a diversity-positive environment and questioning inappropriate behavior when it occurs.



Loden inc.



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# Inequities in Education

## Around the world...



## In different countries...

Figure 2: Girls' gross enrolment ratio\* from primary to higher education in 2014, world and regional averages



Regional variations in girls' enrolments, especially in higher education.

\*Note: Gross enrolment ratios can exceed 100% because of late entry and/or grade repetition.

200 countries and dependent territories.

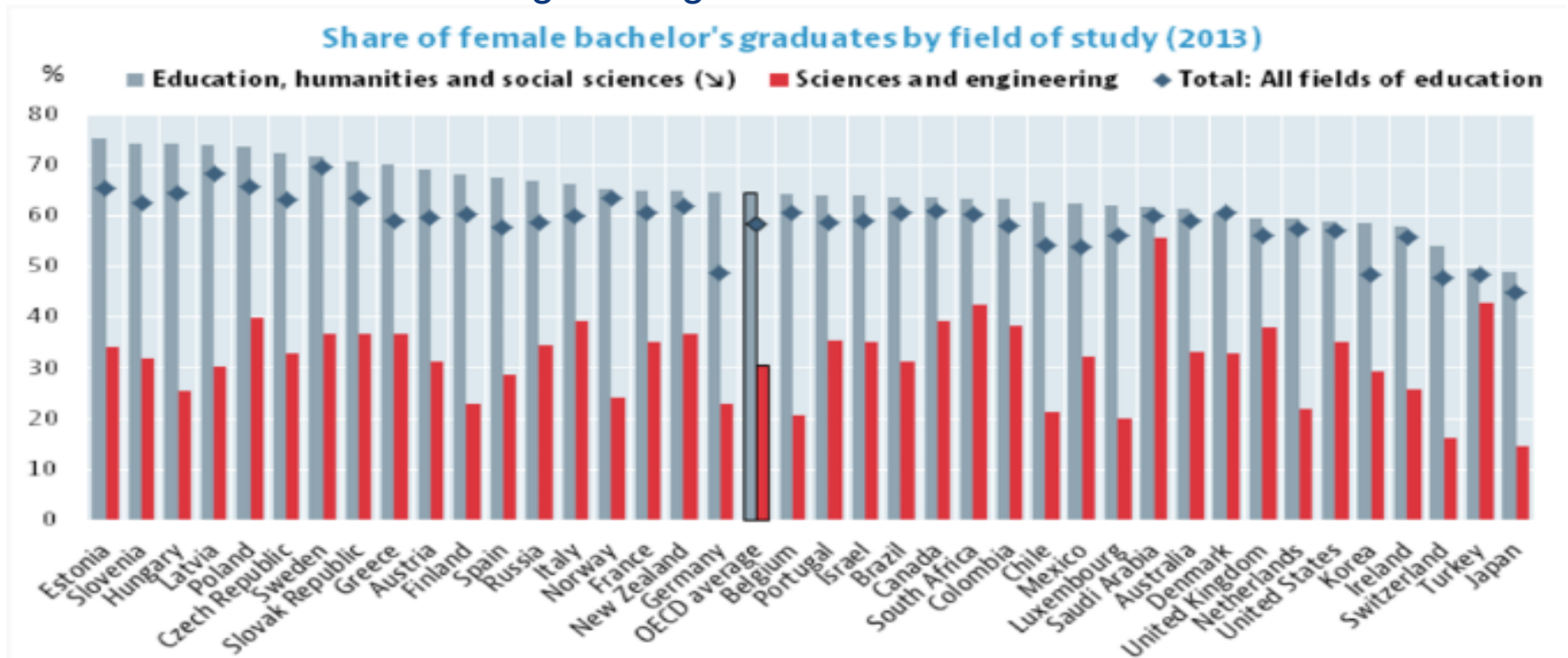
Data source: UIS 2015<sup>25</sup>

UN, Youth Stats, Office of the Secretary-General's envoy on Youth, <http://www.un.org/youthenvoy/youth-statistics-education/>  
 UNESCO, Cracking the code: Girls' and women's education... 2017, <http://unesdoc.unesco.org/images/0025/002534/253479e.pdf>

# Education and Research

Secondary education programmes graduates: 45% male – 55% female (OECD)

- Bachelor's degree graduates: 53% Female – 47% Male (UNESCO)
- BSc. in sciences and engineering: **31% female**

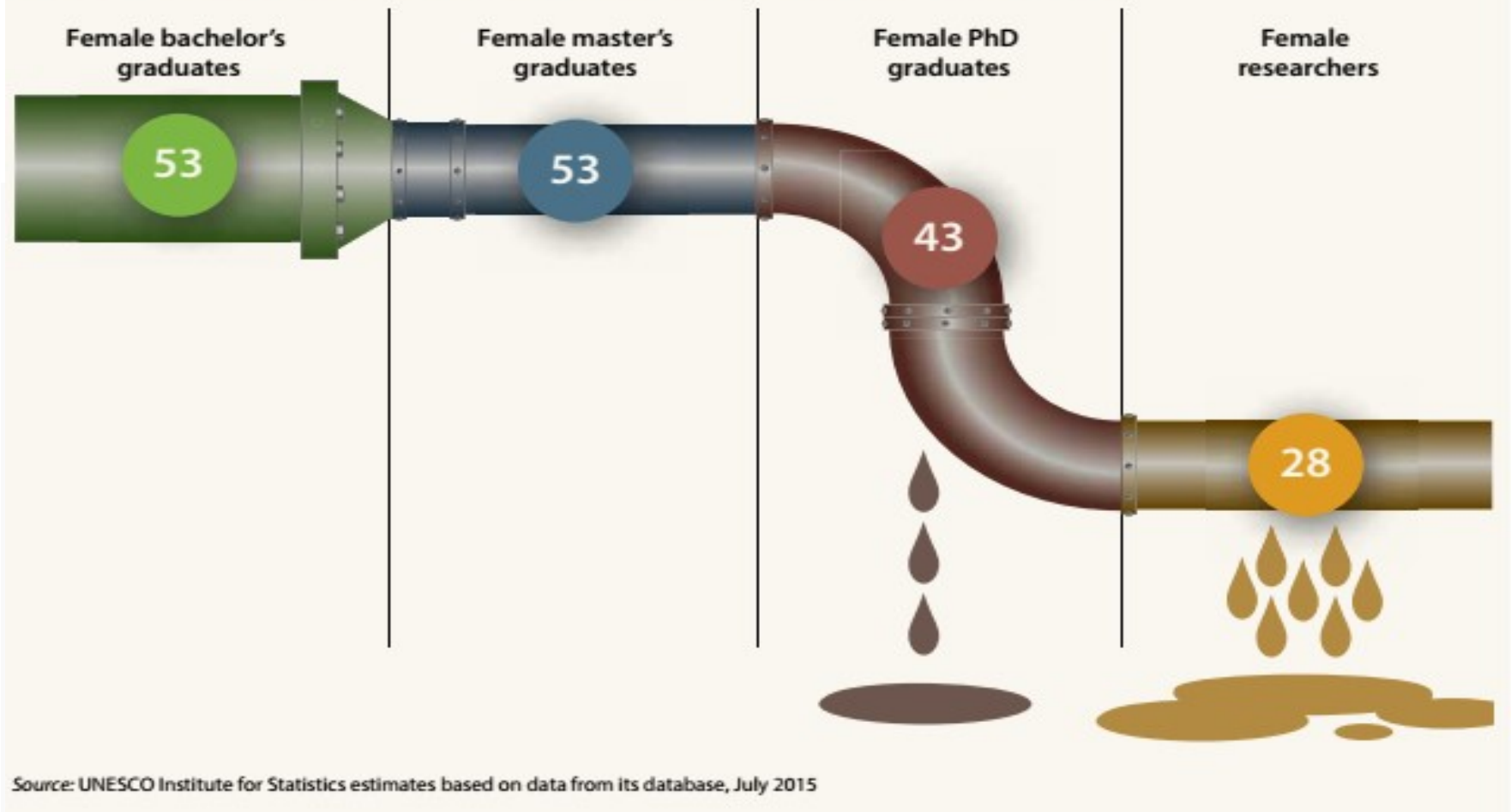


Source: Education at a Glance 2015: OECD Indicators: <https://www.oecd.org/gender/data/gender-gap-in-education.htm>.  
The statistics provide data from the 35 OECD Countries.



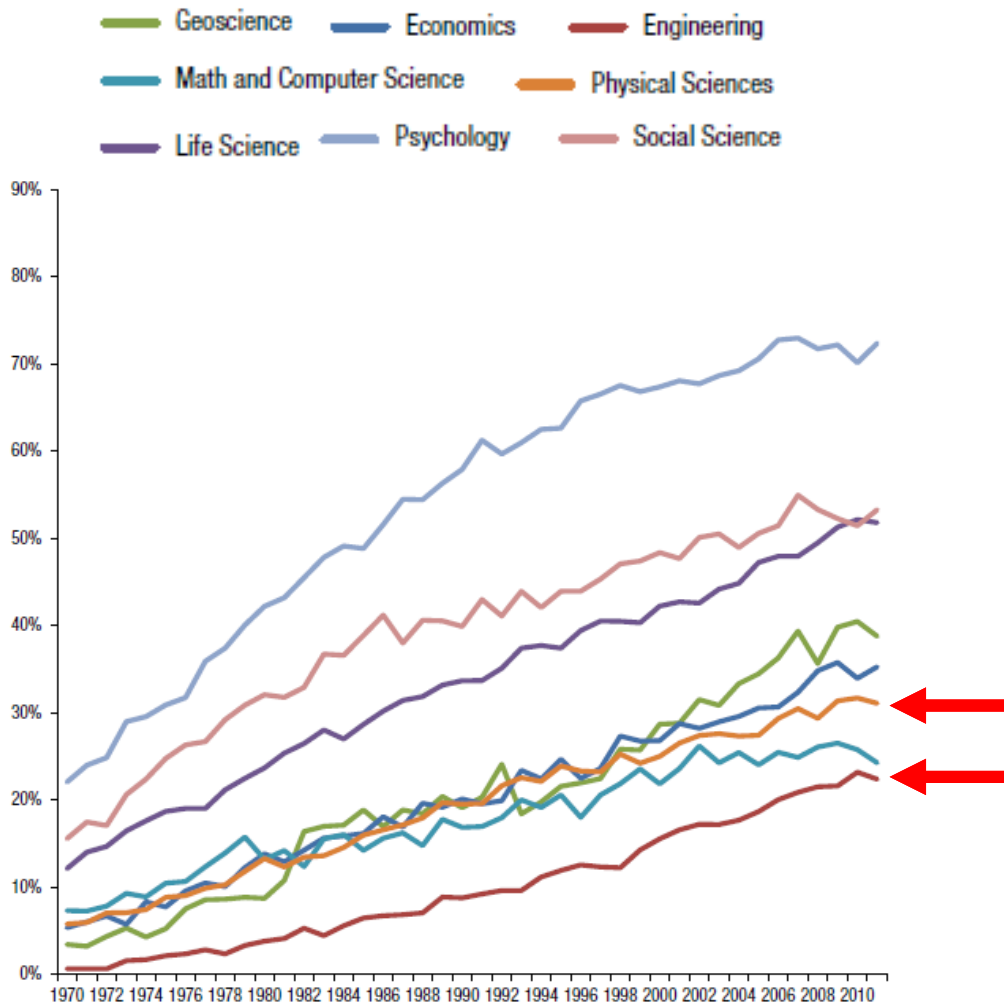
# Education and Research

Figure 3.1: The leaky pipeline: share of women in higher education and research, 2013 (%)



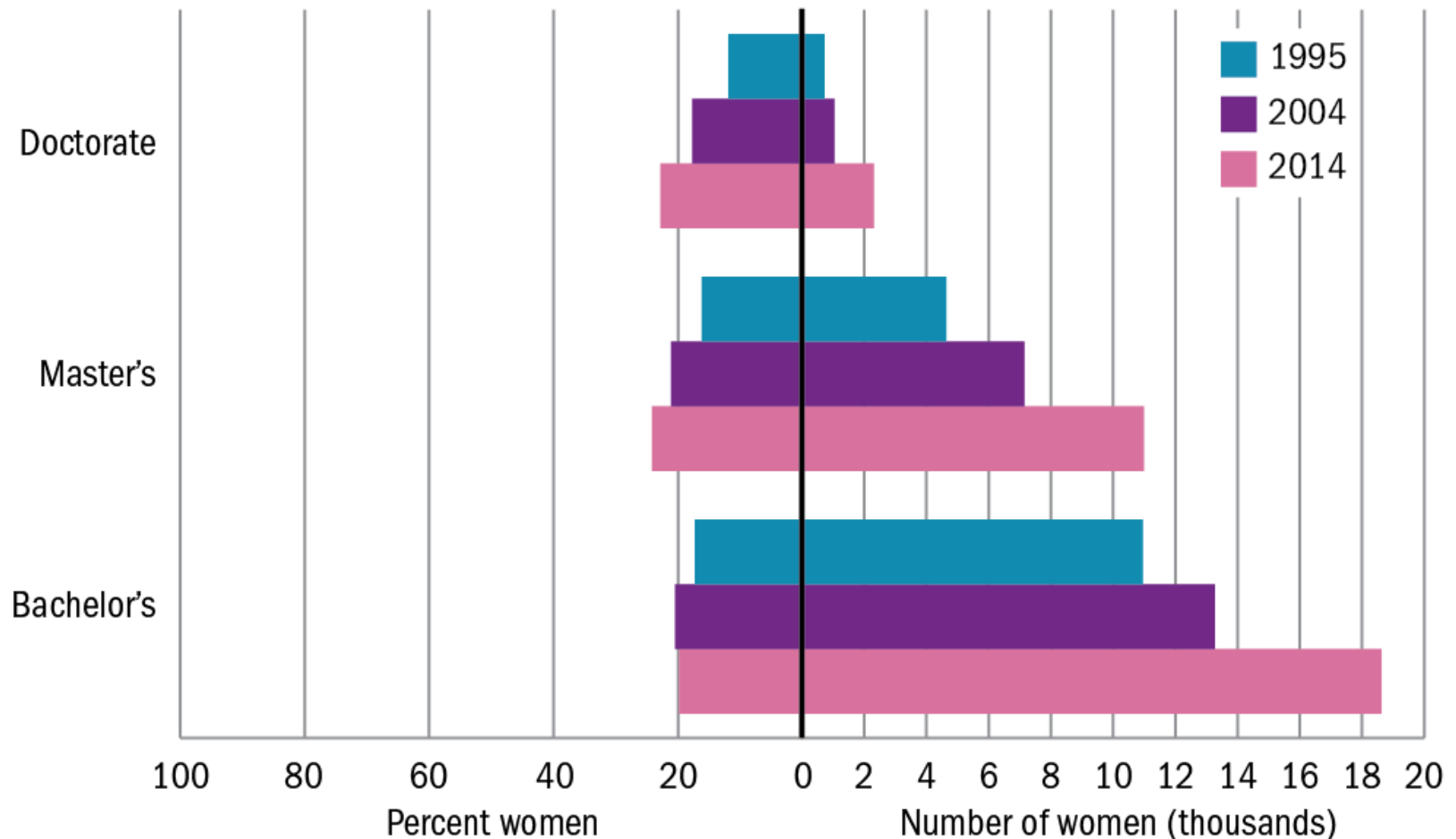
Source: Education at a Glance 2015: OECD Indicators: <https://www.oecd.org/gender/data/gender-gap-in-education.htm>.  
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# PhD Degrees awarded to women



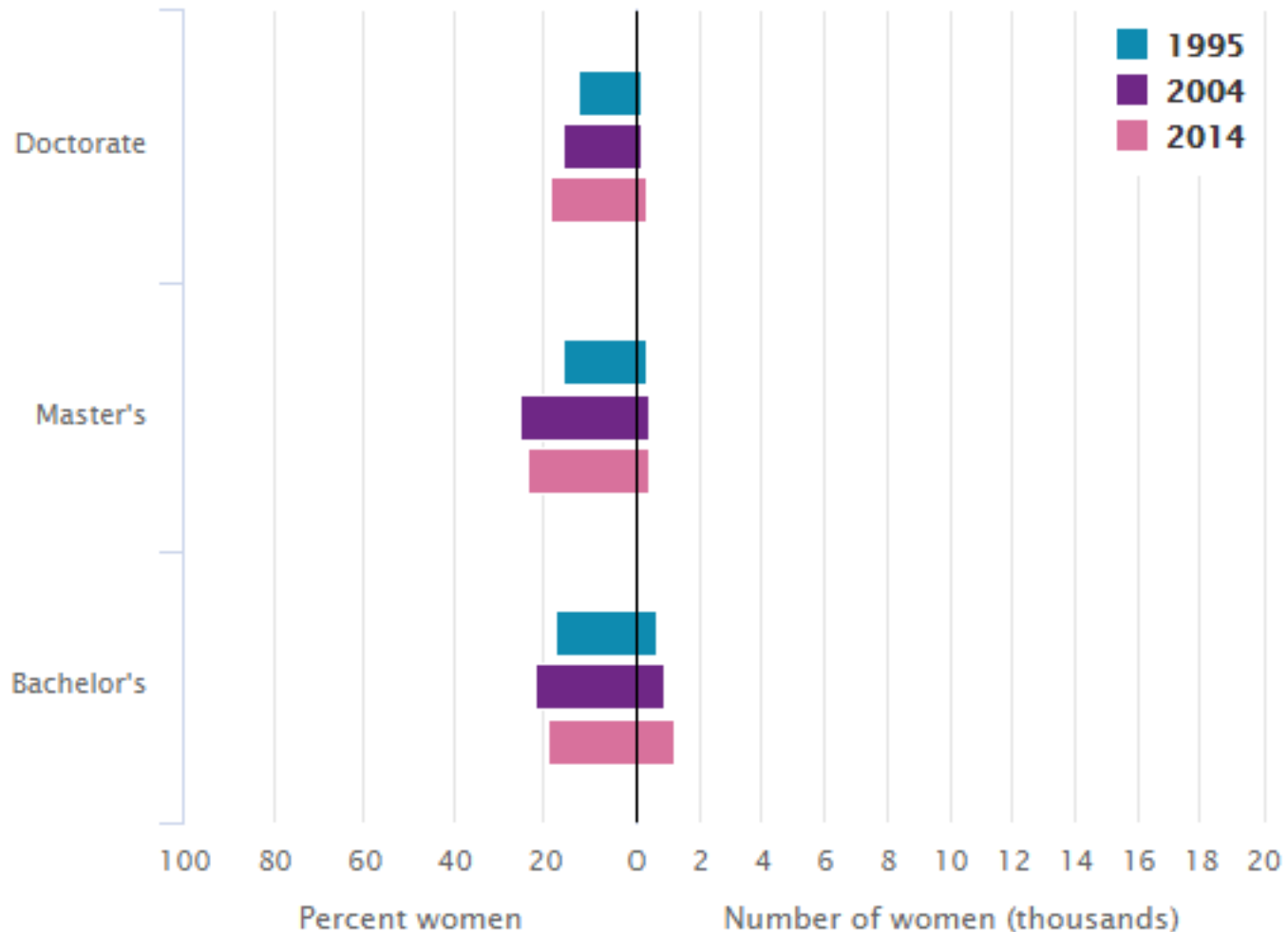
Source: National Science Foundation's WebCASPARI database (<http://ncesdata.nsf.gov/webcaspar/>) in Women in Academic Science: A Changing Landscape, Ceci1 and al.2014

# Gender balance in Engineering



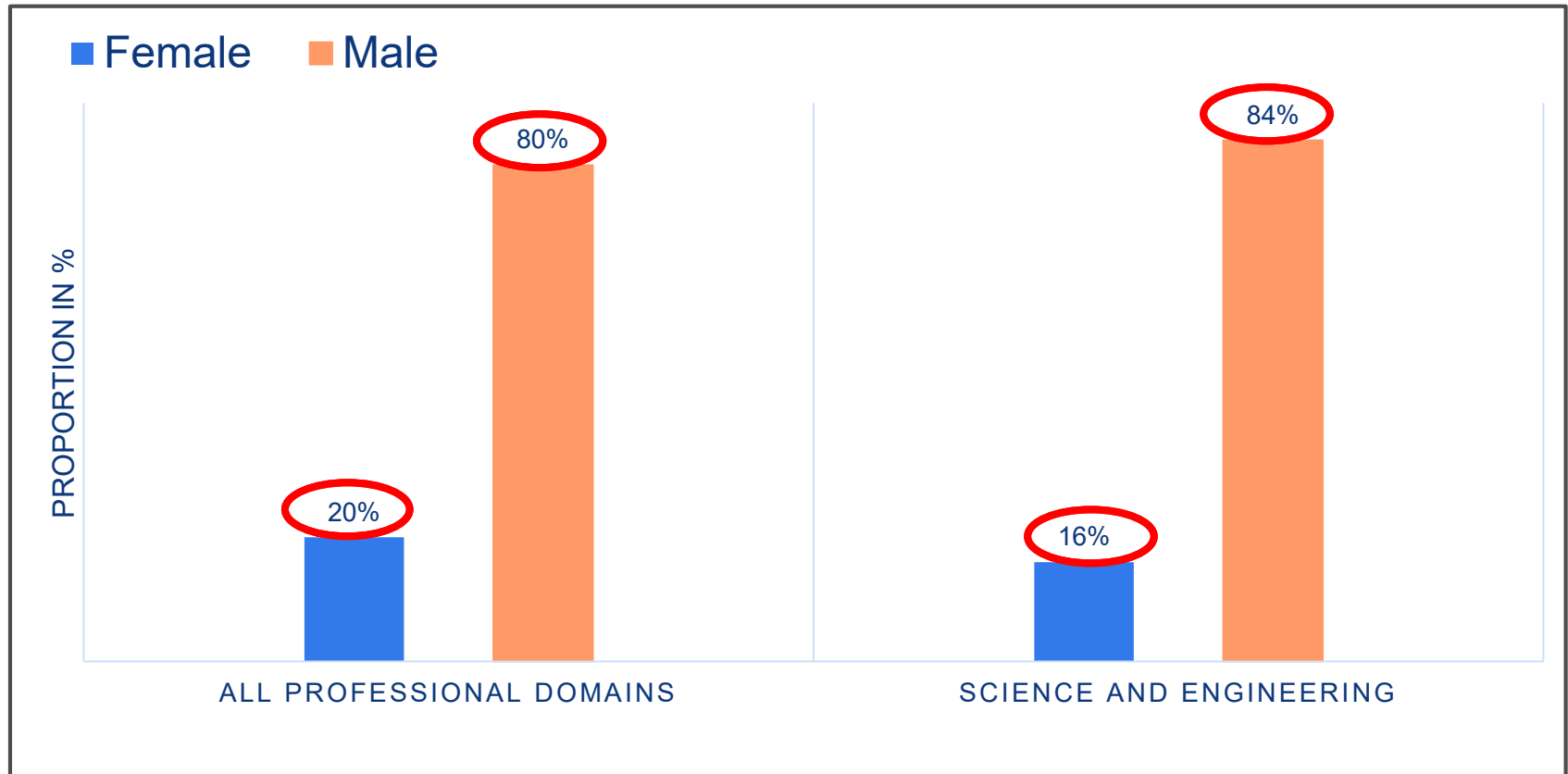
Source: National Science Foundation's Women, Minorities, and Persons with Disabilities in Science report  
<https://www.nsf.gov/statistics/2017/nsf17310/digest/about-this-report/>

# Gender balance in Physics



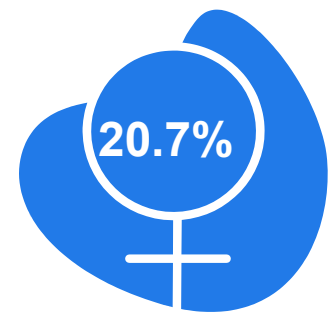
Source: National Science Foundation's Women, Minorities, and Persons with Disabilities in Science report  
<http://www.nsf.gov/statistics/2017/nsf17310/digest/about-this-report/>

# Gender balance at CERN



CERN Staff, Fellows and MPA (except for Users)  
Source: 2016 CERN Personnel Statistics

# An emphasis on Gender Equality



CERN Annual personnel statistics 2016  
Staff members of Personnel

**E**ncouraging young girls and women to take up careers in science...



Image: S.Sapountzi / CERN



... **E**nabling them i.e. creating an inclusive work environment

...**E**mploying them...

SIX WOMEN SHARE THEIR EXPERIENCE WORKING AT CERN



YOUR LIFE@CERN

**A FAMILY-FRIENDLY WORK ENVIRONMENT**

**AN INCLUSIVE AND RESPECTFUL WORKPLACE**

**A PROFESSIONAL-PERSONAL BALANCE**

# Diversity and Equality in Research Organisations



HORIZON 2020

The EU Framework Programme for Research and Innovation

An example of Horizon 2020 funded projects focusing on gender equality:

**GENERA** carries out activities dedicated in gender equality in the Research area.



Gender Equality Network in the European Research Area



Research Services Training Jobs About Us

Equality and Diversity  
EMBL EQUALITY AND DIVERSITY COMMITTEE

JOB OPPORTUNITIES

EQUALITY AND DIVERSITY

EMBL's primary mission is to promote excellence in basic life science research. To achieve this goal, EMBL depends on hiring and training outstanding research, service, and administrative personnel. Ensuring adequate equality and diversity balance among EMBL personnel and fostering awareness and skills relevant to its promotion contributes to research excellence, and ensures that EMBL serves as a model for research



Diversity and Inclusion

Policies  
Diversity and inclusion at Fermilab  
Laboratory demographics

Our goal is to provide an environment where we leverage the best local, national, and international talent to contribute to our research and our innovations.

# Gender equality & diversity in the industry

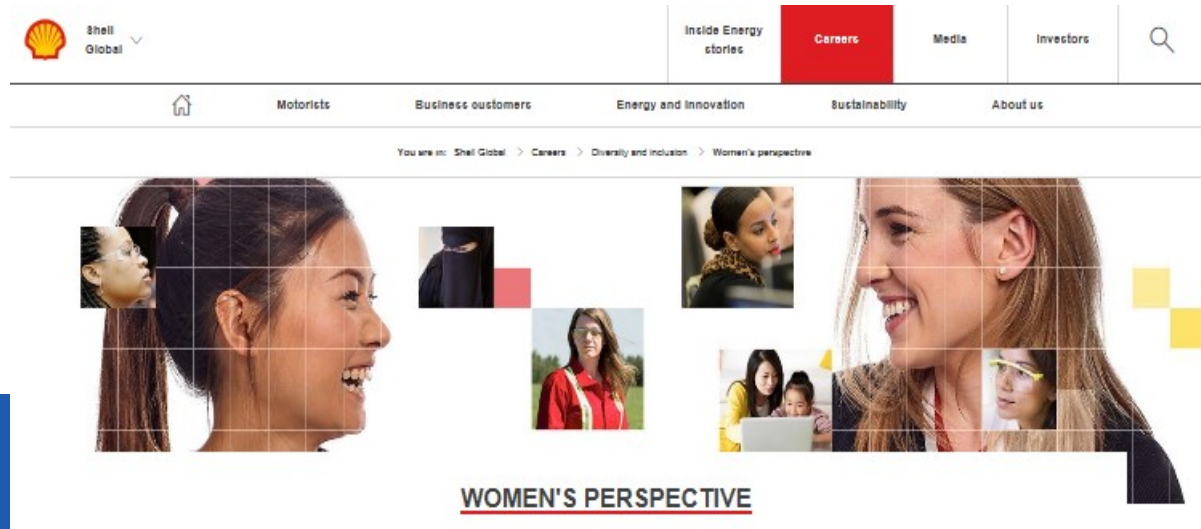
## Microsoft: Girls Do Science



*“7 out of 10 girls are interested in science.  
Only 2 out of 10 will pursue it as a career.  
Let’s change that”*



Fondation l’Oreal





# Science engagement & Gender Equality



**Fabiola Gianotti**

Director-General, European Organization for Nuclear Research



“*The International Gender Champions – Geneva provides an innovative platform for showing how very practical actions can have a direct impact on working conditions and perceptions. We need personal commitments to close gaps where they exist, to counter bias and to give everybody equal opportunities at all levels. It is a privilege to be part of the network and to help move forward the same opportunities for all.*”



I support the IGC Panel Parity Pledge.

<https://www.genderchampions.com/>

People from all over the world celebrate the Girls in ICT Day every year organising events, workshops & programs to encourage women to consider careers in ICT.



Bridging the STEM and ICT gender gap in Tanzania. Teachers take a hands-on role in the training course for ICT. (Photo from the [ITU Blog](#))

# Conferences & Diversity / Gender Equality



- Scientific Programme
- Accelerators for HEP
- Astroparticle Physics
- Cosmology, Dark Energy, Gravitational Waves
- Dark Matter
- Detector R&D and Data Handling
- Favour Physics and Fundamental Symmetries
- Heavy Ion Physics
- Higgs and New Physics
- Neutrino Physics
- Outreach, Education, and

Diversity



## 38th INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS

AUGUST 3 - 10, 2016  
CHICAGO

International Conference on High Energy Physics (ICHEP 2016)

- Scientific Programme
- Higgs Physics
- Neutrino Physics
- Beyond the Standard Model
- Top Quark and Electroweak Physics
- Quark and Lepton Flavor Physics
- Strong Interactions and Hadron Physics
- Heavy Ions
- Astro-particle Physics and Cosmology
- Dark Matter Detection
- Formal Theory Developments
- Accelerator: Physics, Performance, R&D and Future Accelerator Facilities
- Detect
- community providing industry an opportunity using or commercializing developments that
- by sharing experiences and demonstrating the benefits

Diversity and Inclusion

## Workshop's topics

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Do biases and stereotypes affect us?

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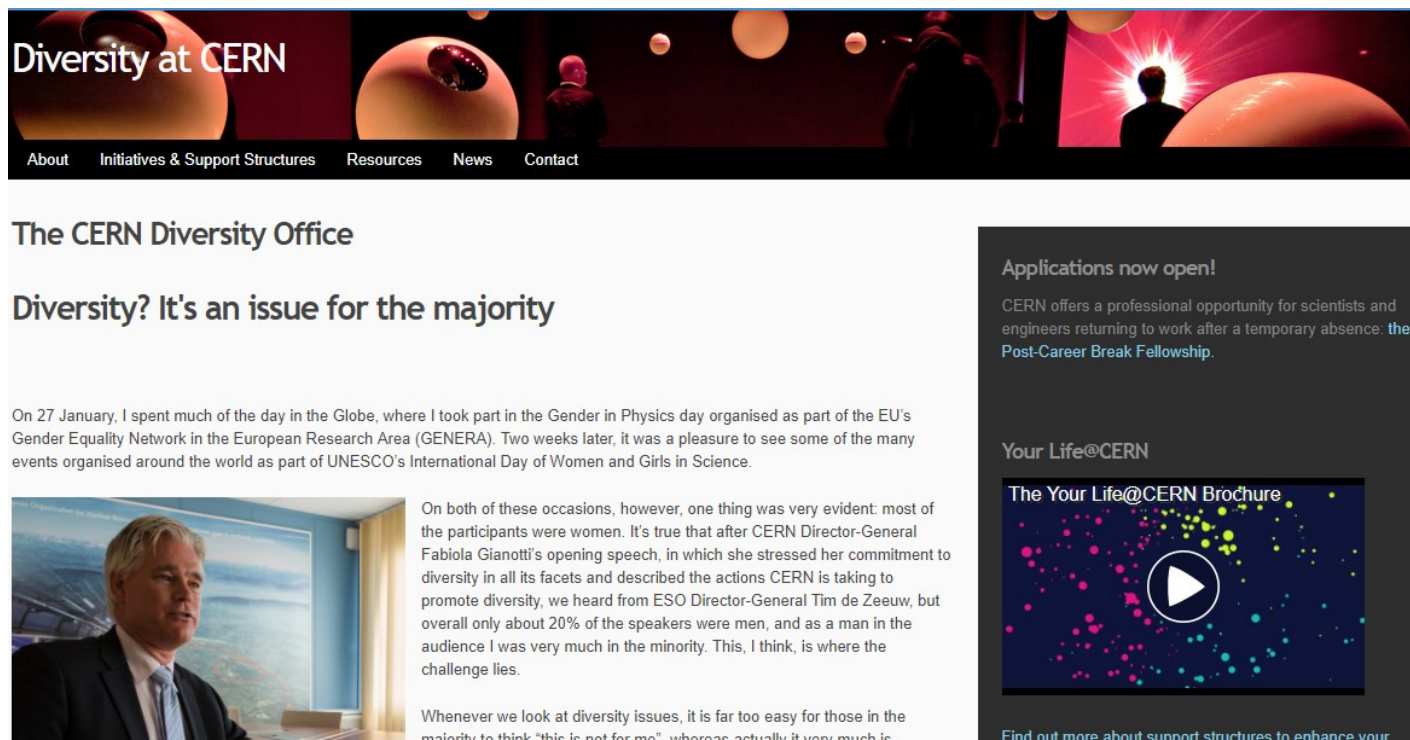
In Education, Research and STEM

**Thank you!**

[https://www.ted.com/talks/chimamanda\\_adichie\\_the\\_danger\\_of\\_a\\_single\\_story](https://www.ted.com/talks/chimamanda_adichie_the_danger_of_a_single_story)

# To find out more...

→ visit [cern.ch/diversity](http://cern.ch/diversity) and keep in touch ;-)



**Diversity at CERN**

About Initiatives & Support Structures Resources News Contact

## The CERN Diversity Office

### Diversity? It's an issue for the majority

On 27 January, I spent much of the day in the Globe, where I took part in the Gender in Physics day organised as part of the EU's Gender Equality Network in the European Research Area (GENERA). Two weeks later, it was a pleasure to see some of the many events organised around the world as part of UNESCO's International Day of Women and Girls in Science.

On both of these occasions, however, one thing was very evident: most of the participants were women. It's true that after CERN Director-General Fabiola Gianotti's opening speech, in which she stressed her commitment to diversity in all its facets and described the actions CERN is taking to promote diversity, we heard from ESO Director-General Tim de Zeeuw, but overall only about 20% of the speakers were men, and as a man in the audience I was very much in the minority. This, I think, is where the challenge lies.

Whenever we look at diversity issues, it is far too easy for those in the majority to think "this is not for me", whereas actually it very much is.

**Applications now open!**

CERN offers a professional opportunity for scientists and engineers returning to work after a temporary absence: [the Post-Career Break Fellowship](#).

**Your Life@CERN**

**The Your Life@CERN Brochure**

Find out more about support structures to enhance your

email: [hr-diversity-info@cern.ch](mailto:hr-diversity-info@cern.ch)