

# The Early Career, Gender & Diversity at LHCb

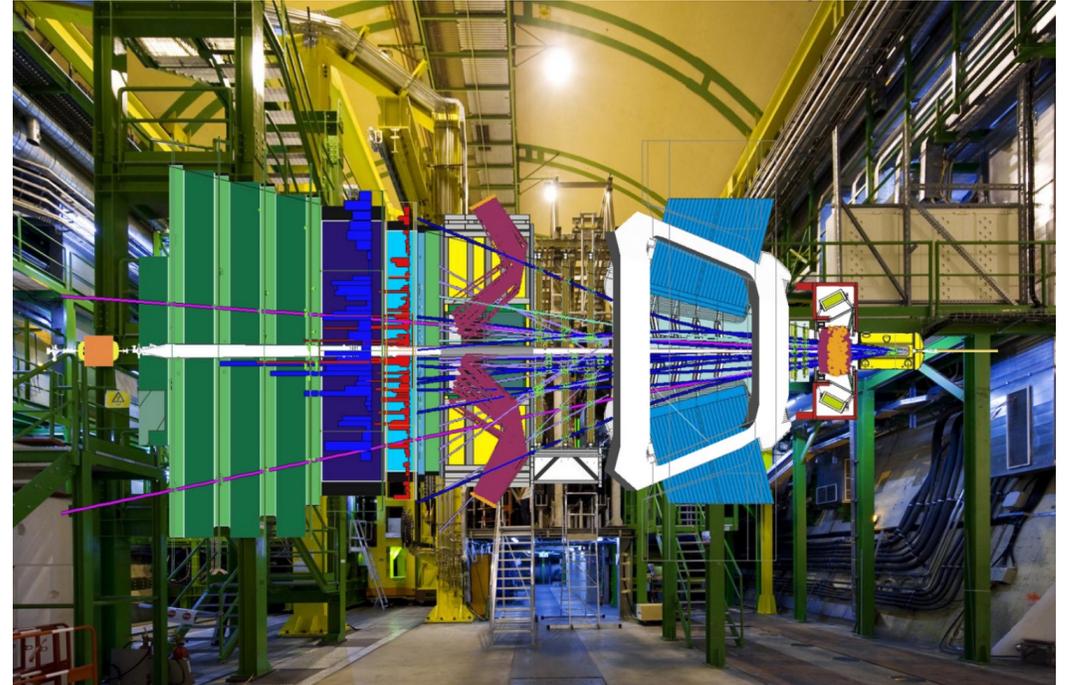
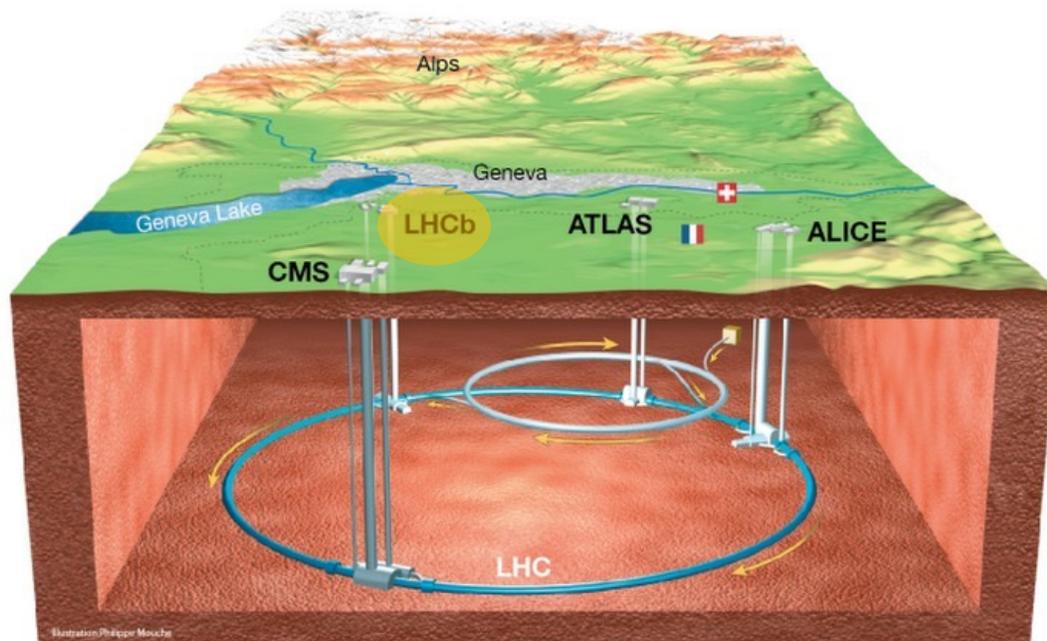
Francesca Dordei, on behalf of the LHCb Collaboration



EPS 2021, July 26-30, 2021

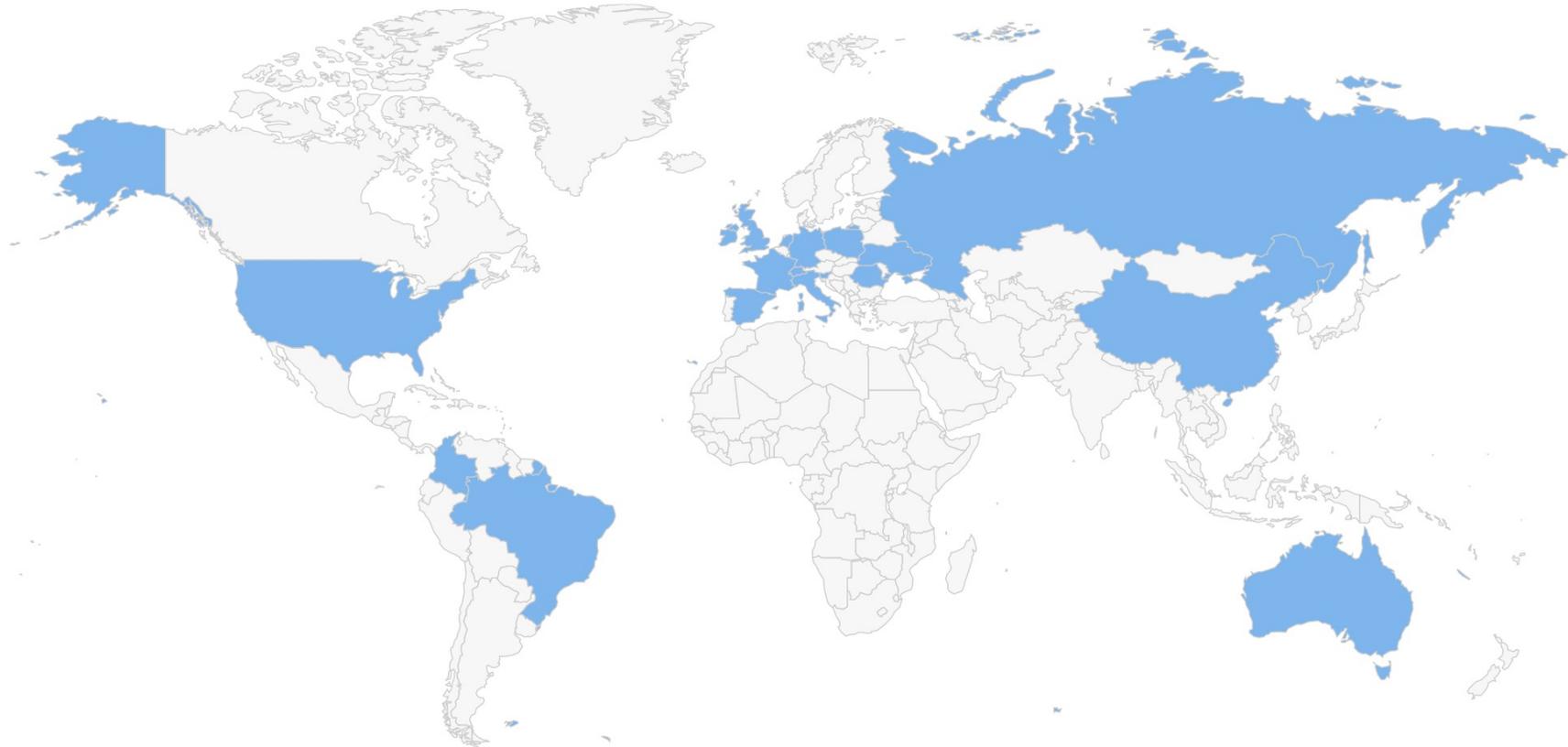
# The LHCb experiment

- Sits on one of the four collision points at the LHC at CERN, right after the Switzerland border



- Multi-purpose experiment dedicated to the study of heavy flavour decays

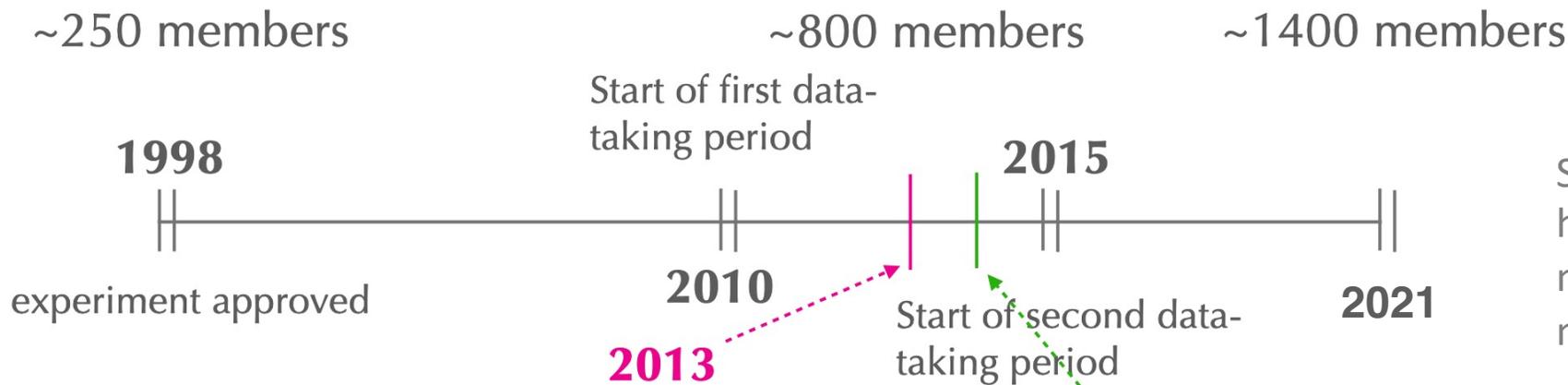
# The LHCb experiment - people



The LHCb collaboration currently has **1482 members** representing **18 regions** across **81 institutes**



# Early Career, Gender and Diversity in a Nutshell



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

2014

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.

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 Organization

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- It consists of two ECGD Officers, who are normally of senior (faculty/staff) career status, and two Early Career (EC) representatives\*.
- The LHCb Management proposes the ECGD Officers to serve for a period of 2 years.
- The EC representatives are elected by the LHCb EC community (1 year + 1 year renewable).
- The appointment of ECGD Officers and the EC representatives is ratified by the Collaboration Board.
- One ECGD Officer and one EC representative are invited to attend the CB as non-voting members.

\* Belonging to the EC community is a matter of self definition.

# ECGD Activities



Be available to colleagues, support individuals who experience specific problems\*



Support newcomers to LHCb



Organize regular meetings at collaboration weeks (focussing on a specific topic)



Maintain web page as public face



Monitor gender/diversity balance in the collaboration, also as a function of age (leadership positions, talks at conferences, etc.)



Advise management on related matters



Support the early career community taking care of their needs

\* ECGD deals with issues related to any type of indirect or direct discrimination be it on grounds of gender, sexual orientation, ethnicity, disability, creed, cultural background or other factors.



# The LHCb code of conduct

- Members of the LHCb collaboration are expected to act in an ethical and collaborative manner at all times, and abide by the CERN code of conduct.
- LHCb members shall not engage in harassment or bullying, or discriminate against each other in particular on the basis of sex, age, religion, beliefs, nationality, culture, ethnicity, sexual orientation, gender identity, career status, disability, or family situation.
- LHCb members are expected to work with the utmost scientific integrity, and respect the confidentiality of internal information as defined in the LHCb Publication Procedure document.

# ECGD website



## LHCb Early Career, Gender and Diversity Office

[LHCb homepage](#) > [ECGD homepage](#)

### Weekly Moodmeter Survey

We weekly monitor the mood of the collaboration with 5 questions. You can find the survey [here](#). Login using the user **ecgdsurvey** and password **LHCb\$ECGD20** (try from a private browser).

### News & upcoming events

(last updated July 11th 2021)

### What are we here for?

To quote from the LHCb constitution,

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

We are here for all issues related to [gender and diversity](#) and to the needs of our colleagues at an [early career](#) stage. In particular, we deal with issues related to any type of indirect or direct [discrimination](#), be it on grounds of gender, sexual orientation, ethnicity, disability, creed, cultural background or other factors. Please contact us if you have experienced or witnessed any type of discrimination or harassment or any inappropriate behaviour in conflict with the [LHCb Code of Conduct](#). We guarantee absolute confidentiality.

[https://lhcb.web.cern.ch/ECGD\\_Office/ECGD-intro.html](https://lhcb.web.cern.ch/ECGD_Office/ECGD-intro.html)

## ECGD plenary meeting @ the LHCb collaboration week

### 15 Jun 2021

Main topic: Supporting transgender and non-binary colleagues.

### 23 Feb 2021

Main topic: Healthy teamwork in preparation of Run 3.

### 8 Dec 2020

Main topic: Being a (EC) scientist during a pandemic.

### 8 Sep 2020

Main topic: Ethnic discrimination.

### 9 Jun 2020

Main topic: Working from home, online conferences/meetings.

### 25 Feb 2020

Main topic: Examples of successful mentoring initiatives.

### 3 Dec 2019

Main topic: A first look at the 2019 ECGD survey.

### 18 Sep 2019

Main topic: Climate Change and Sustainability.

### 18 Jun 2019

Main topic: Early Career initiatives in LHCb.

### 5 Mar 2019

Main topic: ECFA survey on the recognition of individual achievements in large collaborations.

### 6 Dec 2018

Main topic: Gender and diversity in LHCb - what should we learn for the upgrade?

### 6 Sep 2018

Main topic: importance of social events at workplace.

### 14 Jun 2018

Main topic: mental health in the research and academia community.

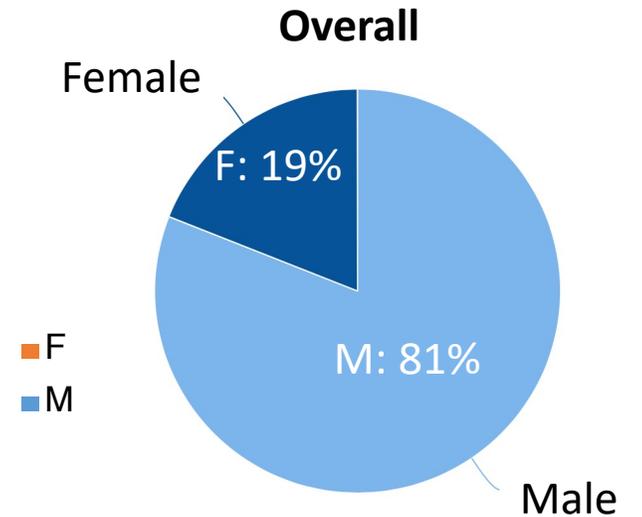
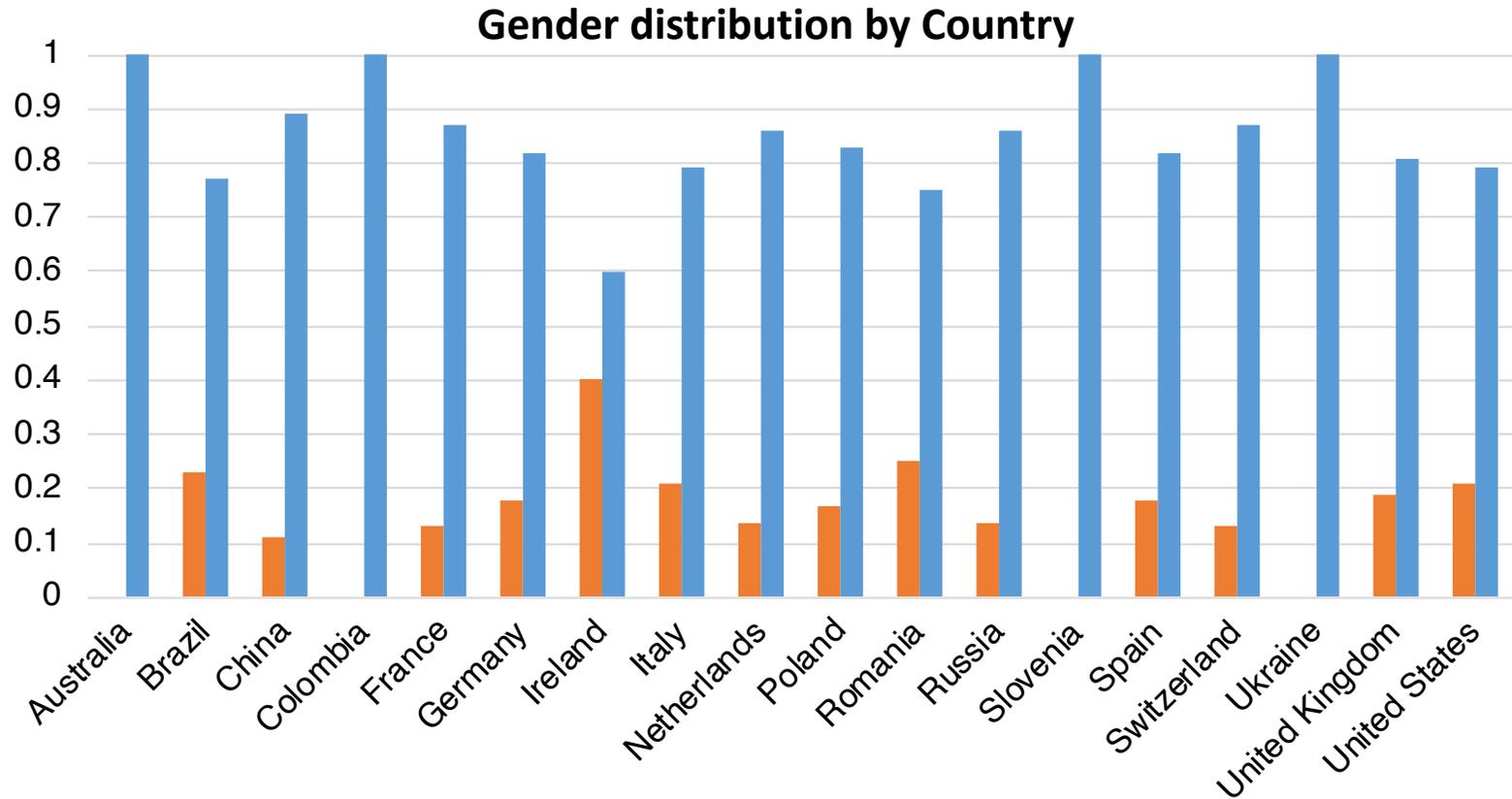
### 8 Mar 2018

Main topic: gender balance.

Usually >100 persons attend, and we have lively discussions and debates

# Representation statistics

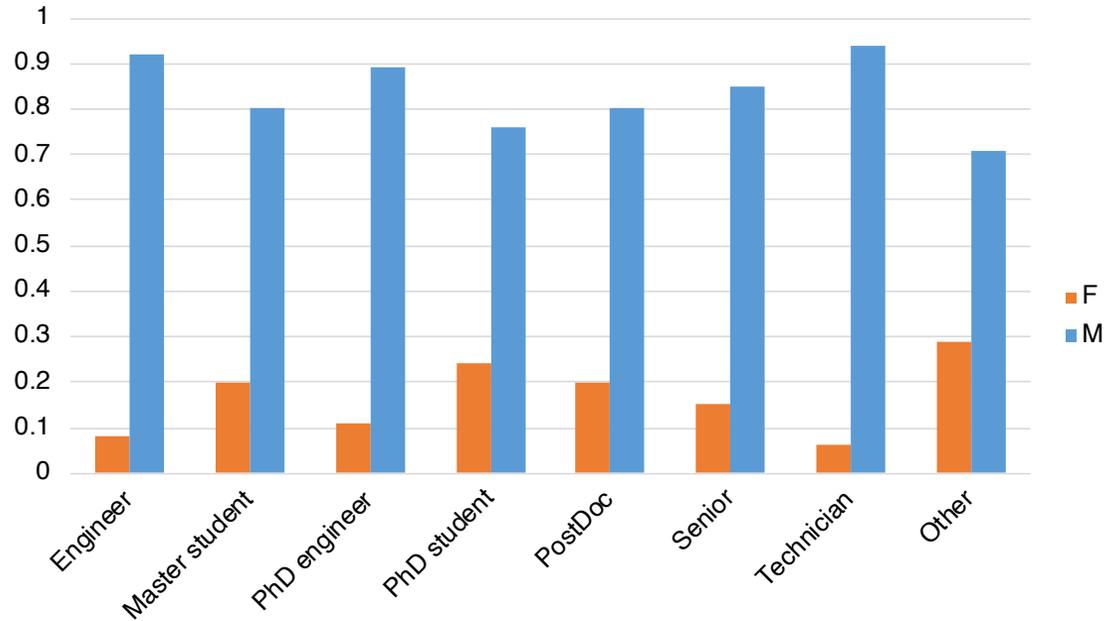
- The statistics shown here is for binary genders only.
- We recently introduced the non-binary category in the LHCb registration form.



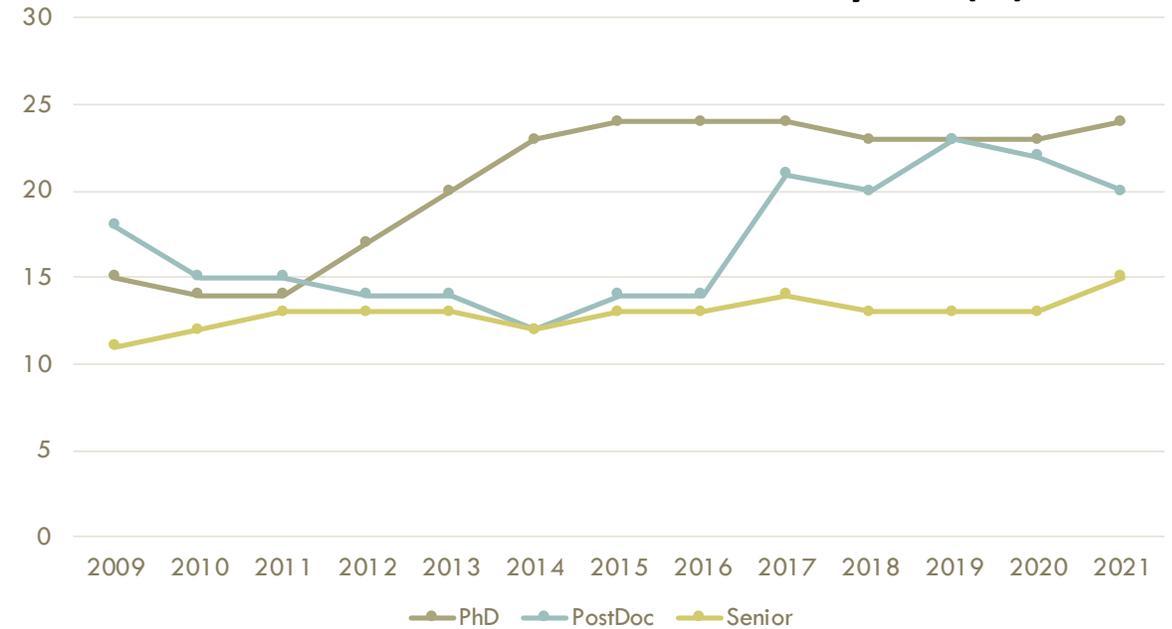
N.B. Some countries (e.g. Australia, Colombia, Ireland, Ukraine, Slovenia) have a small number of members.

# Representation statistics

## Gender distribution by employment category

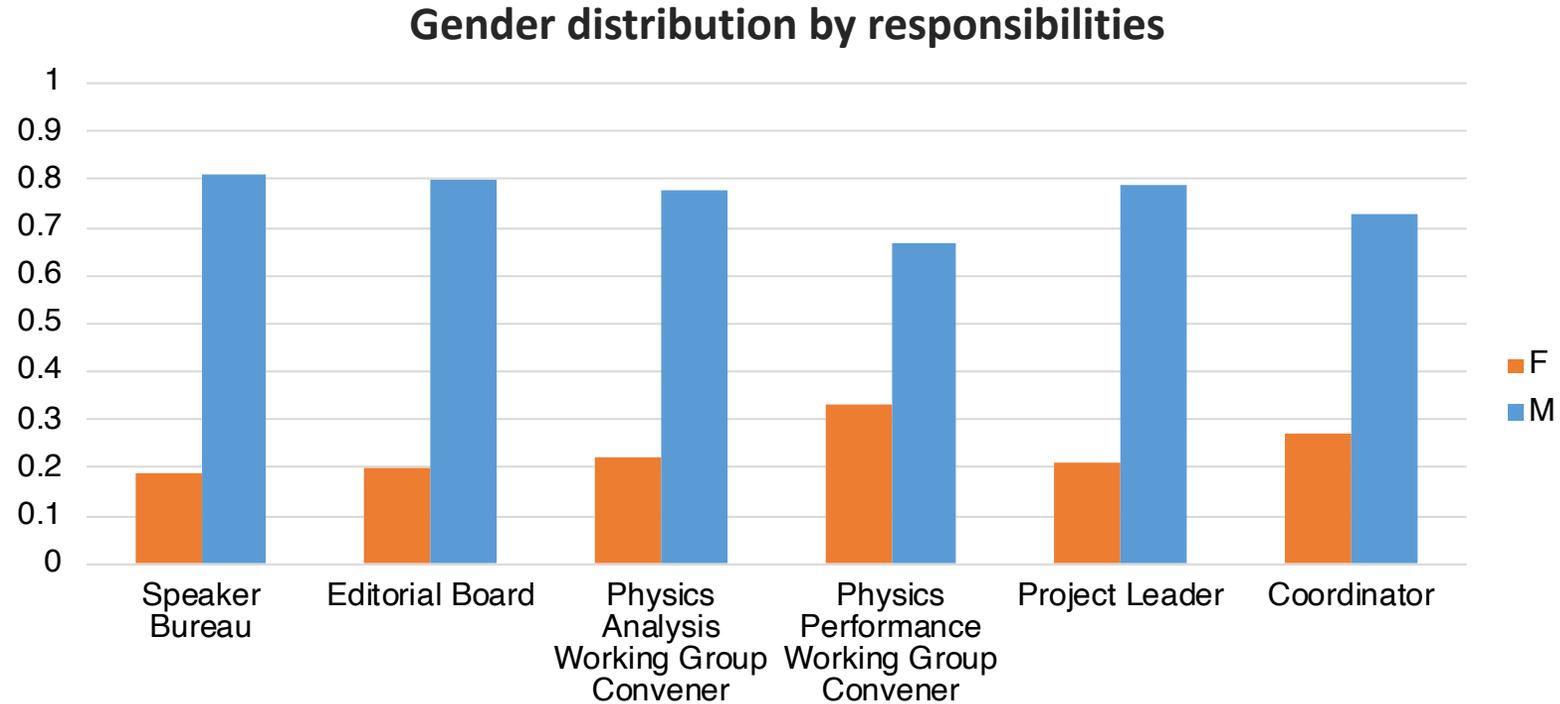


## Trends of female fraction over years (%)



- Fraction of women PhD is above the overall fraction of women in the collaboration. It decreases for more advanced career stages, but PostDocs are getting closer.
- Less women engineers and technicians.
- Increasing trend overall, hoping to see soon an increasing trend also for seniors.

# Representation statistics



Fraction of women among Physics and Performance Working Group convenors and coordinators is around 30%.

# A few ECGD activities and initiatives

## Inclusive Teamwork training

- Aimed for people with coordination roles in LHCb (optional), organised by the company ThrivingTalent
- In the programme: overcoming bias and practicing inclusive behaviours, giving and receiving feedback...
- Took place in February, with 33 participants; feedback is very positive

## 'Coffee with...'

- A monthly virtual coffee break with 'random' colleagues (participants with mixed profiles assigned to 'rooms')
- Started at the beginning of the pandemic

## Co-organization of many LHC-wide events

- Ice-cream event
- Soft-skill workshops
- LHC career event

→ We advertise news and activities related to ECGD via the ECGD web page and emails to the collaboration

## Results of the survey on the effects of the Covid-19 pandemic on LHCb scientists

E. Ben Haim<sup>1</sup>, M. F. Cicala<sup>2</sup>, F. Dordei<sup>3</sup>, S. Klaver<sup>4</sup>, R. Kopečna<sup>5</sup>, V. Lukashenko<sup>4</sup>, N. Skidmore<sup>6</sup>

<sup>1</sup>LPNHE, Sorbonne Université, Université de Paris, CNRS/IN2P3, Paris, France

<sup>2</sup>Department of Physics, University of Warwick, Coventry, United Kingdom

<sup>3</sup>INFN Sezione di Cagliari, Monserrato, Italy

<sup>4</sup>Nikhef, Amsterdam, the Netherlands

<sup>5</sup>Heidelberg University, Heidelberg, Germany

<sup>6</sup>University of Manchester, Manchester, UK

### Abstract

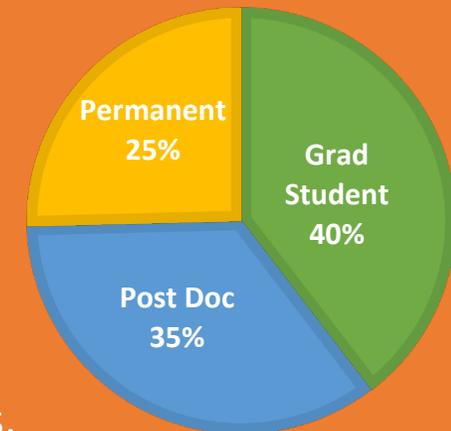
In this note, we report the outcomes of a survey of LHCb scientists carried out during December 2020 regarding the social response to the Covid-19 pandemic. The survey was completed by 199 people, corresponding to about 14% of the collaboration. Amongst the most alarming issues, it was found that in particular the well-being of our younger colleagues, namely graduate students and especially post-docs, has deteriorated. This is indicated by their lack of productivity, motivation, focus and a big decline in their mental health since the beginning of the crisis. In view of these worrying results, we provide a series of suggestions hoping that this report can help to increase the awareness about less debated effects of the Covid-19 pandemic, in particular on our younger colleagues.

# Survey on the effects of the Covid-19 pandemic on LHCb scientists

One of the outcomes of the December 2020 meeting was a **survey on the effects of the Covid-19 pandemic on LHCb scientists**.

We received 199 responses:

- Represents 14% of the collaboration
- Reaction to this situation is really personal and depends on many factors
- The graduate students and especially post-docs, has clearly **deteriorated**.
- This is indicated by their lack of productivity, motivation, and focus.

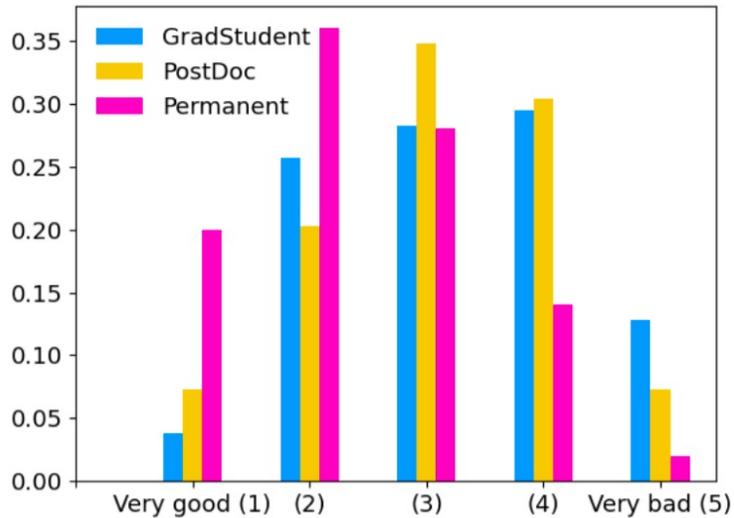




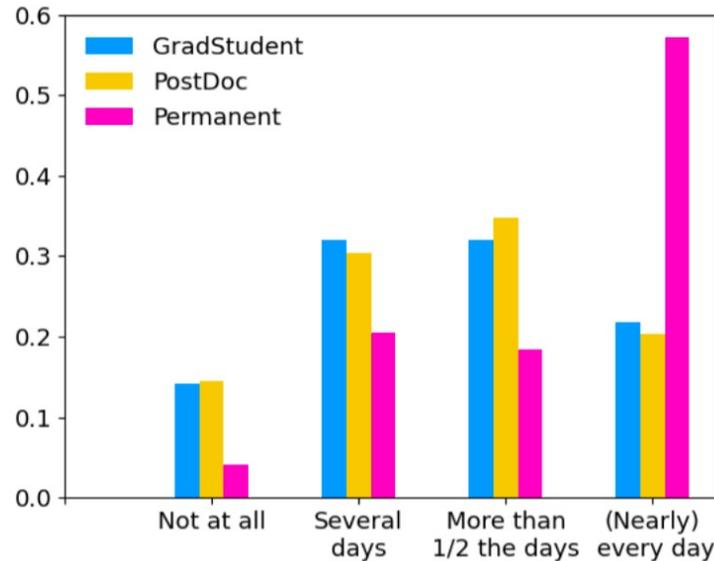
# Some key plots

- Consistently, 20-30% of the early-career colleagues reported feeling very lonely, isolated, more anxious and frustrated/helpless for more than half of the days.

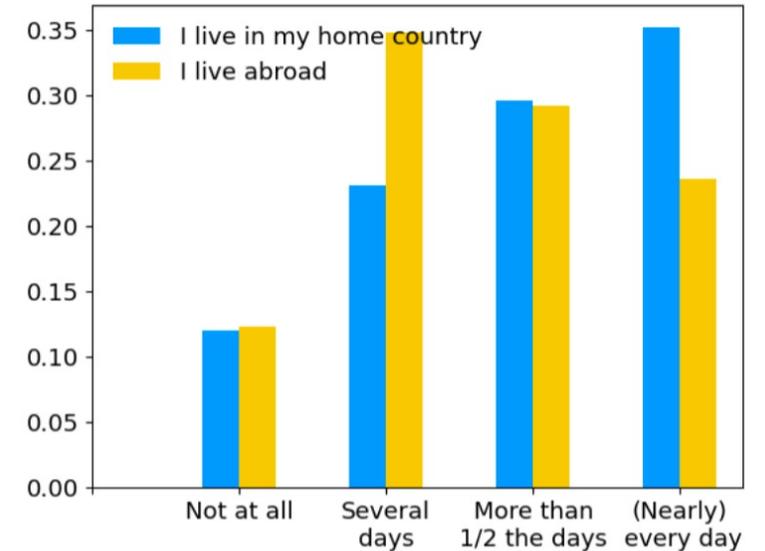
How would you rate your productivity compared to pre-corona?



Do you feel motivated to work ?



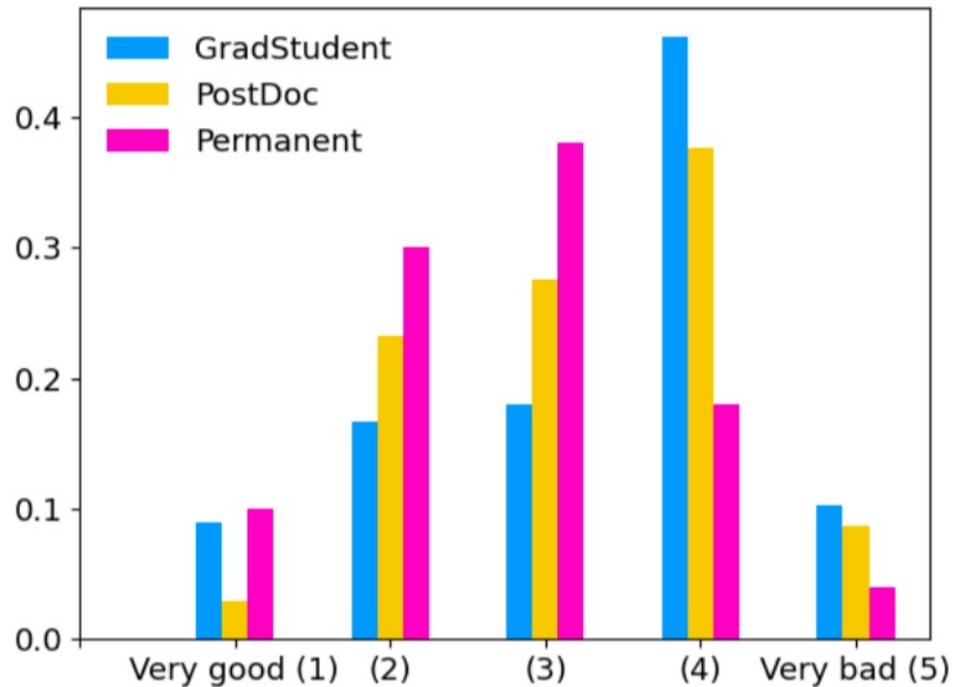
Do you feel motivated to work ?



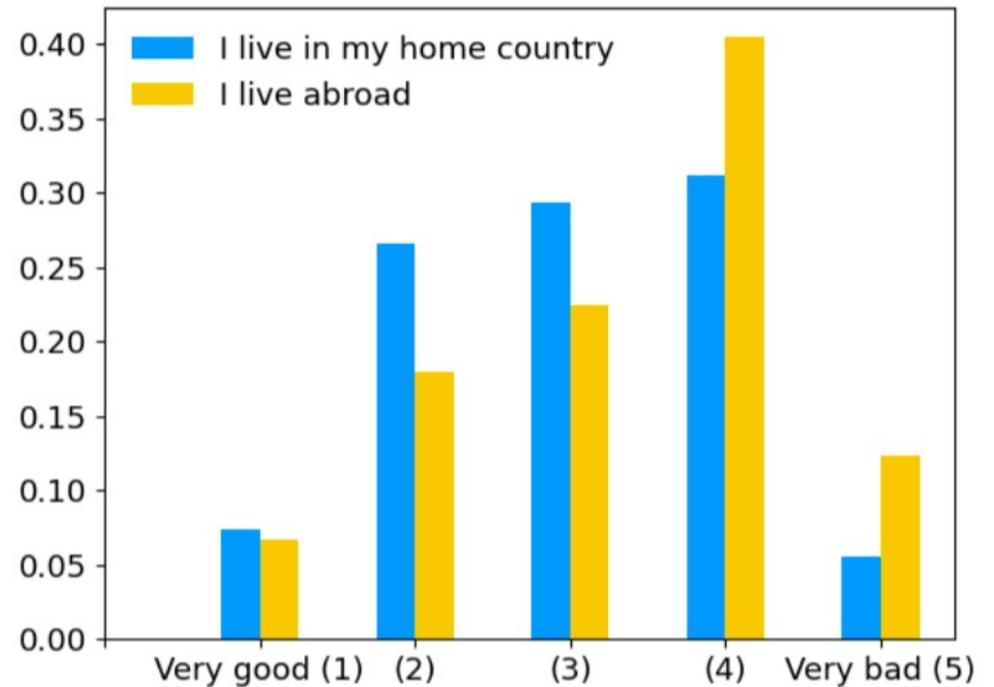
# Some key plots

- More than 50% of graduate students, 45% of post-docs and about 20% of permanent staff experienced a big decline in their mental health state since the beginning of the crisis.

How would you rate your mental health compared to pre-corona ?



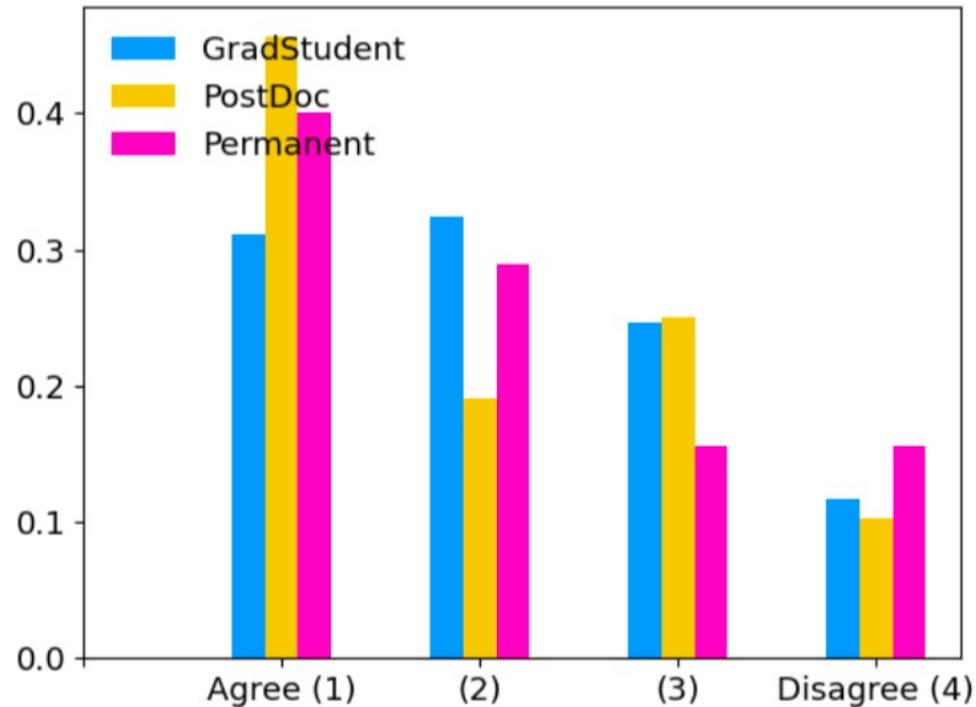
How would you rate your mental health compared to pre-corona ?



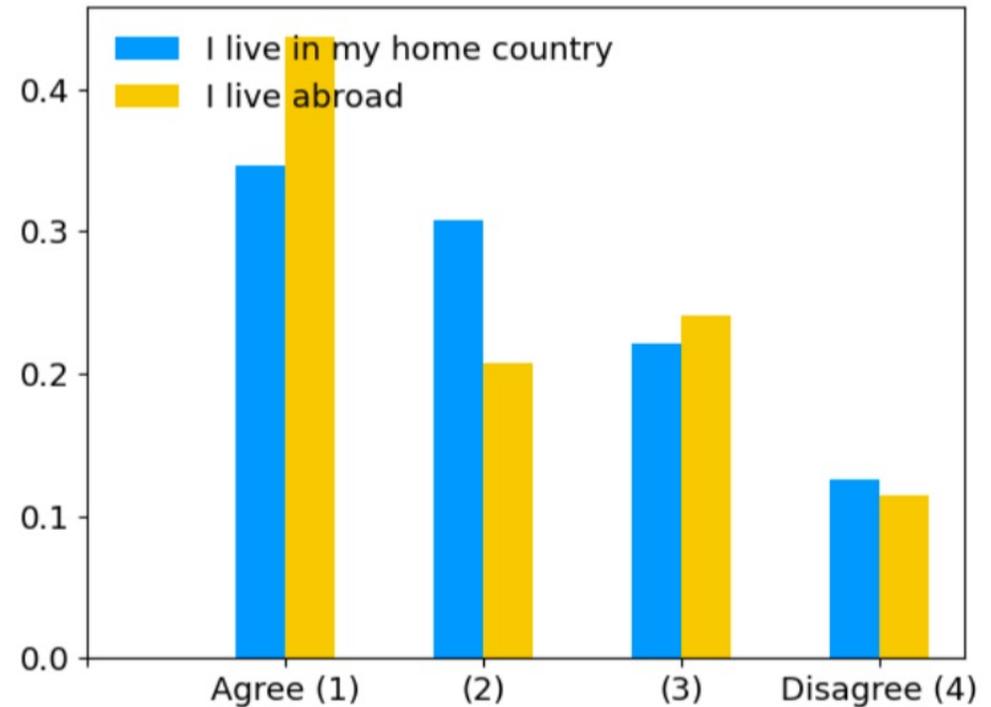
# Some key plots

- About **30% of the people receive less support regarding mental health** than what they would like to have.

**I have enough support from my supervisor regarding mental health**



**I have enough support from my supervisor regarding mental health**



# Some interesting outcome

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Good start for a conversation about mental health in academia regardless of covid-19

- See e.g. Uncertain prospects for postdoctoral researchers, Nature588(2020) 181
- We advise supervisors and team leaders, and possibly big organisations like CERN, to take this into account investing resources into the well-being of their people. This is especially crucial for those living abroad.
- We also emphasise the importance of informal meetings, both as a mean to relieve the loneliness of, in particular, younger colleagues, but also as a lower-threshold environment for asking work related questions, given that now graduate students do not have other possibilities.

Big worry: **difficulty for the colleagues with short-term contracts to find a job in the next years.** Many reasons:

- people working on hardware or laboratory related tasks (but also software tasks due to the lack of support) will not manage to finish their assignments and/or publish their work
- struggle to create a network of collaborators and/or future employers in such a travel limited situation
- lack of visibility due to online only conferences and collaboration meetings
- mental issues and low productivity

# Conclusions

The ECGD office at LHCb deals with all issues to do with gender, diversity or early career factors.

It has existed since 2014, LHCb was the first LHC collaboration to establish a body dealing with ECGD matters

It is an evolving office and always striving to look for ways to better tackle gender diversity and early career issues with LHCb and HEP more generally

The ECGD office is highly visible in the collaboration and organizes a plenary session at each LHCb week, with large attendance

A survey was carried out on LHCb members in 2020 to see the effects of the Covid-19 pandemic, some of the results of which were presented today



**Backup slides**

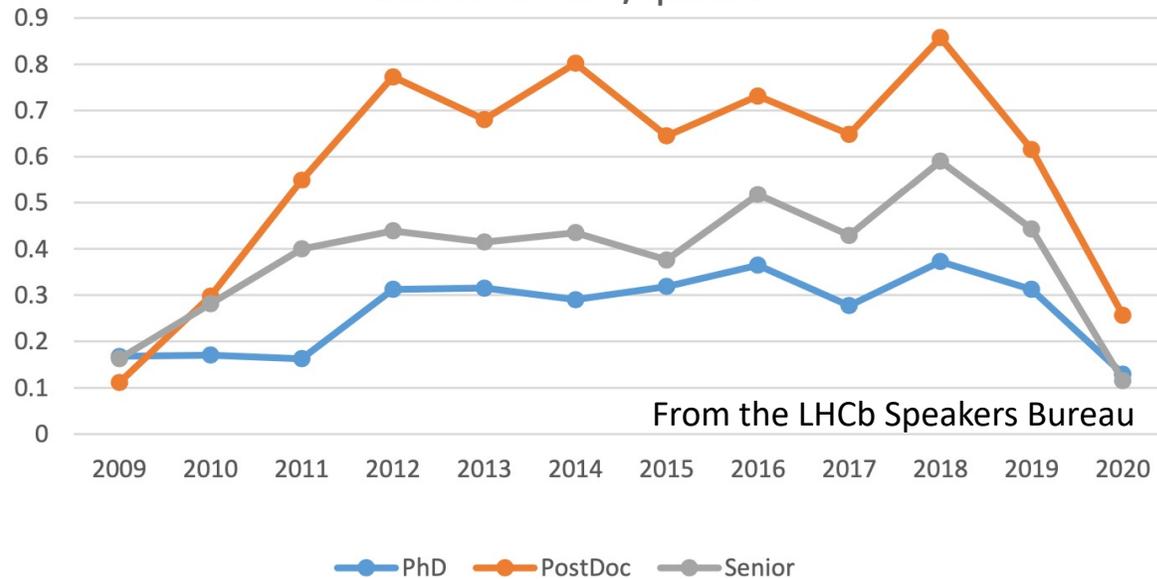
Country	Member fraction
Netherlands	0.055
Brazil	0.028
Australia	0.003
Slovenia	0.001
Spain	0.044
Ukraine	0.008
Switzerland	0.122
United States	0.049
Ireland	0.003
China	0.096
Colombia	0.003
Germany	0.074
United Kingdom	0.154
Hungary	0.001
France	0.073
Poland	0.038
Italy	0.136
Romania	0.008
Russia	0.104

Profession	Member fraction
BachelorStudent	0
Emeritus	0.012
Engineer	0.094
Masterstudent	0.107
PhDengineer	0.026
PhDstudent	0.253
PostDoc	0.162
Senior	0.266
SummerStudent	0
Technician	0.062
Other	0.018

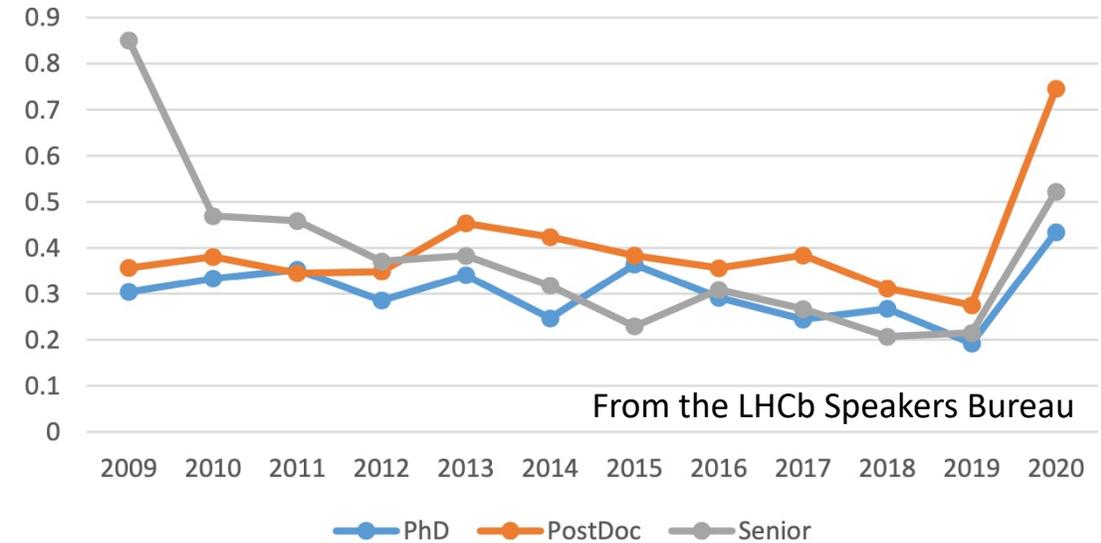
# Representation statistics

## Career stage of LHCb speakers

Number of talks/speaker



Fraction of high profile talks

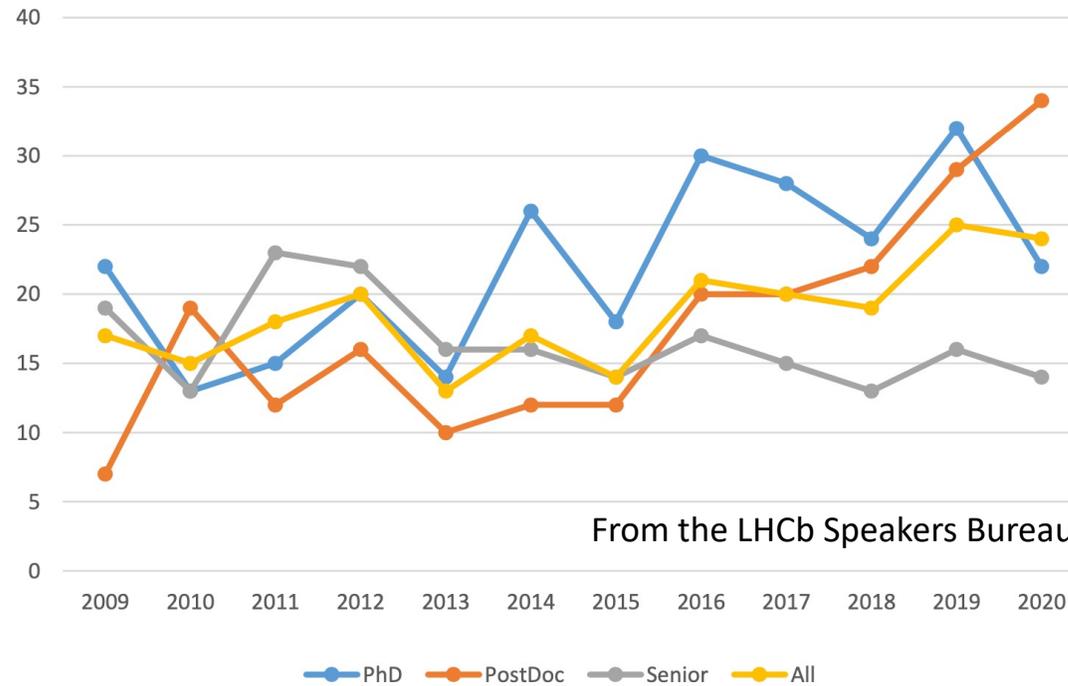


- Reduction of ~50% of the talks in 2020. >30 conferences/workshops (with ~60 assigned talks) cancelled or postponed
- More high-profile talks in 2020 than usual as many workshops were cancelled
- Postdocs are well represented in high profile talks

# Representation statistics

## Women representation among LHCb speakers

Percentage of all talks given by female speakers



Increase in number of conference talks given by women postdocs

# Definition of EC community

- Belonging to the LHCb early-career community is a matter of self definition.
- The community includes all the LHCb members who are subscribed to a specific e-group. By default, postdocs, PhD students and Bachelor students are automatically subscribed. LHCb members who do not belong to these categories and would like to join the community could subscribe. On the contrary, those who would like not to belong to the early-career community can simply *unsubscribe* to the e-group.