

CMS Conference Presentations: Analysis

Introduction
Special years
Analysis of conference data

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- ▶ CMS has a standing committee to organize the representation of CMS at scientific fora, comprised of up to 20 members incl. ex-officio
 - ◆ Pursue the goal of an equitable distribution of talks
 - ◆ Promote and maintain a high standard of CMS presentations
- ▶ Balance
 - ◆ Best possible **representation of CMS** to the outside world
 - ◆ Benefits/needs of **individual** CMS members
- ▶ A **diverse** pool of speakers?
 - ◆ Considered regularly as part of the speaker selection
 - Mostly for major conferences (but small number of talks for single conference)
 - Constrained by pool of nominations
 - ◆ Monitored after the fact, on a yearly basis
 - Regional diversity has always been reported
 - From 2016: also career level, gender, seniority in CMS

> 16000 presentations in >13 years – wealth of data and unique experiences from one of the largest scientific collaborations today

Speaker selection criteria (unsorted)

► Speaker selection usually decided unanimously / by consensus, and based upon

- ◆ **Nominations** for a presentation
- ◆ Information in **CINCO profile**
- ◆ **Experience** of candidates for the talk in question

} **Always**

General recommendations

Not a linear set of criteria

Individual's role in making possible the content of the talk

Contributions to CMS (physics and other "service work")

Often case-by-case decisions, weighing factors individually

Call for nominations

Fair distribution of opportunity (**talk history**), part of this is the "rank"

→ Need to verify and monitor

Personal invitations

} **As applicable**

- ◆ Requirements imposed by conference organizers
- ◆ Origin of candidate vs. place of conference, **travel** and visa etc.
- ◆ **Diversity** of speakers (regional, gender, etc.) at a given conference
- ◆ Formal criteria such as **authorship**
- ◆ Other criteria



- ▶ Crucial to have **complete** and **accurate** information!
- ▶ **CINCO (database) “personal profiles”** incl. recommendations
 - ◆ Automatic: authorship, status in CMS, talk history, ...
 - ◆ Contributed by individual: CMS activities, contributions, positions held, career, ... (relies on information from each CMS member!)
- ▶ **Nomination** texts for specific talk
 - ◆ Self-nominations
 - ◆ Conveners, supervisors, collaborators
- ▶ Information solicited from conveners and coordinators
- ▶ Inside knowledge of committee members (incl. ex-officio)
 - ◆ Developed contacts with many conference organizers and other experiments over the years

Observations after ~~one~~ special years



- ▶ Beginning with **La Thuile 2020** (March 2020), **most conferences until May were canceled**. **CERN seminars** took place by video, including a few extra slots.
- ▶ Late May 2020, **LHCP 2020** was the **first major conference to go “fully virtual”**
 - ◆ Heroic effort!
- ▶ Many successful examples since then, from **ICHEP** in July 2020 to **EPS-HEP**
- ▶ Early discussions (spring 2020) on internal changes (e.g. “weight” of video talks)
 - ◆ Decided against global changes (everyone equally affected), rather case-by-case decisions
- ▶ Very few “hybrid” conferences (**ICNFP**, Greece, September 2020) in 2020, becoming more common now
- ▶ **La Thuile, Moriond, LHCP, EPS 2021** all online conferences
- ▶ Some events continue(d) to be postponed
 - ◆ **Rencontres de Blois 2021**: May/June → October
 - ◆ **Lepton-Photon Symposium**: Summer 2021 → January 2022

Presentation history



All recorded presentations:
talks+posters,
international+national,
major conferences, workshops, ...

All talks at international
conferences and workshops
(excluding instrumentation confs.)

All talks at major international
conferences (Moriond QCD+EW,
ICHEP, EPS-HEP, LHCP, QM, LP, SUSY)

50% of a “normal” year (except major conferences)

Presentation history

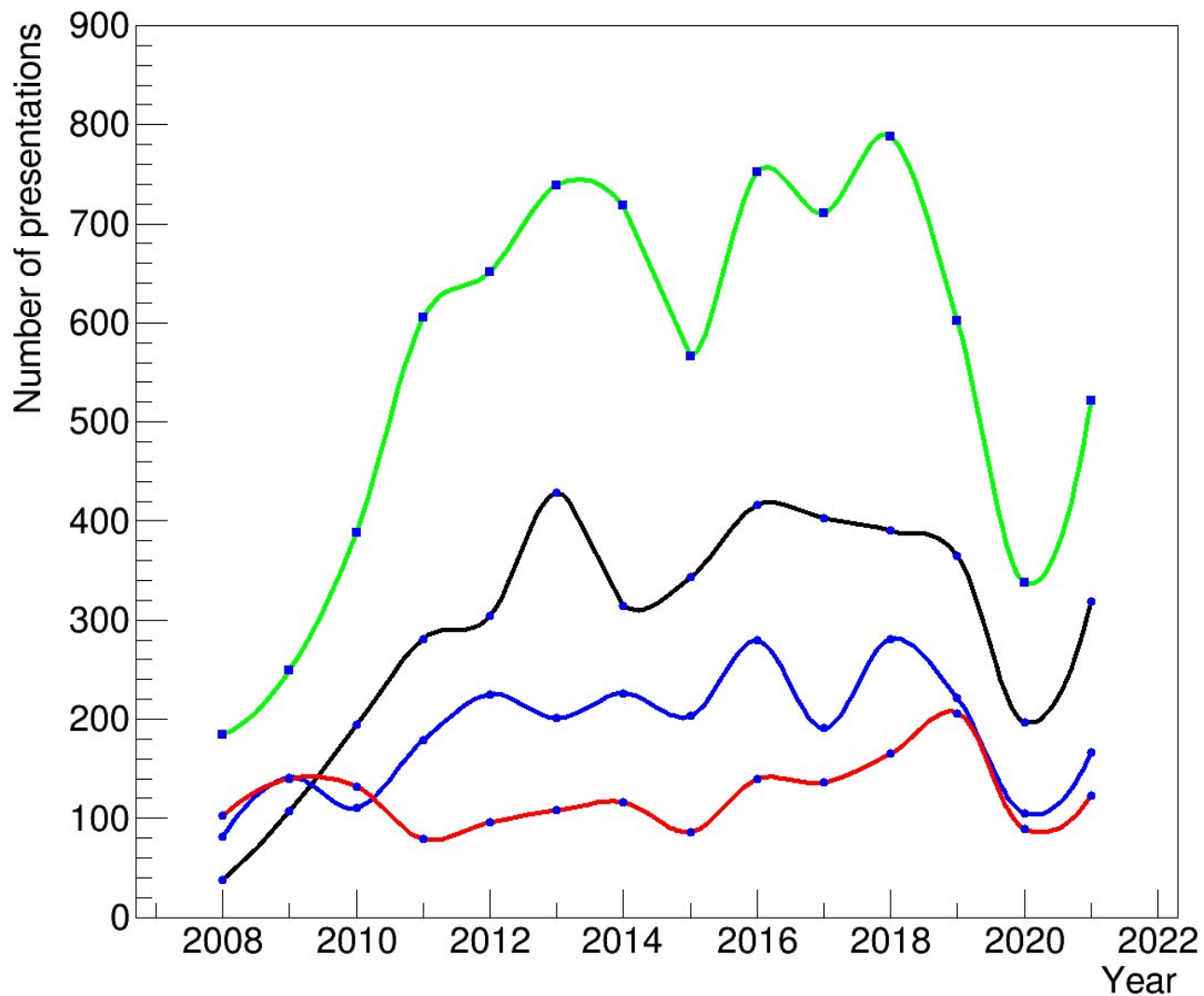


International talks

Presentations at national meetings

Posters

Talks at instrumentation conferences





- ▶ CMS tried to re-accommodate speakers from canceled talks (Moriond 2020 etc.), although hardships are inevitable
 - ◆ Relies on having the information!
- ▶ Also some **benefits**: speakers (and others) attending conferences in “places” they would otherwise have little chance to visit
 - ◆ Some online conferences have multiple times their usual number of participants
 - ◆ **ICHEP 2020: more than 3000** registered participants! (Though real attendance in some parallel sessions low – highly selective)
- ▶ **New forms of online exchange** developed: breakout rooms, virtual coffee breaks, virtual poster sessions, various social media platforms, etc.
 - ◆ Beneficial for the future
 - ◆ No replacement for “real” conferences
 - ◆ Exciting prospects for much more varied scientific fora than ever before

Geographical diversity and balancing

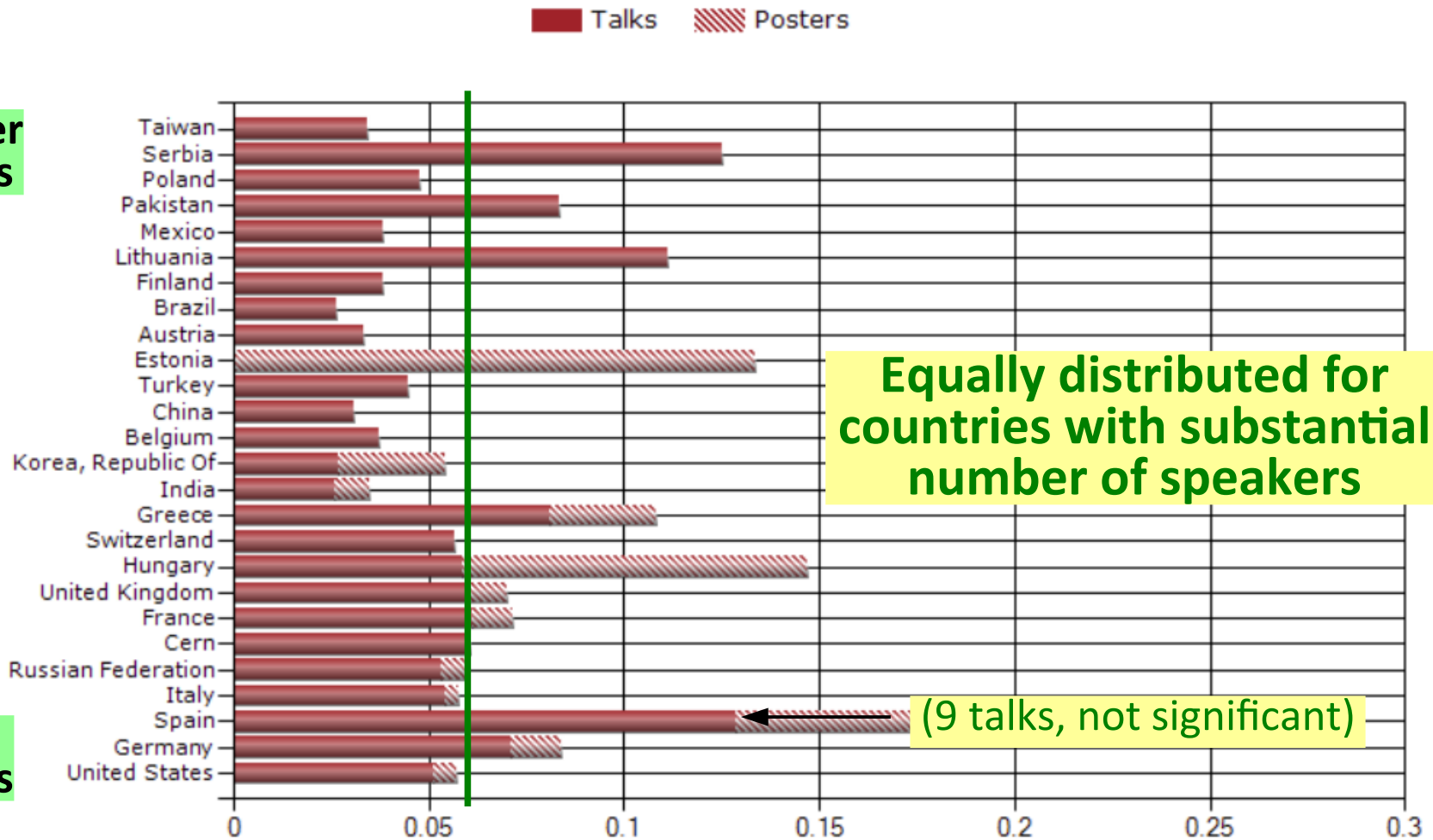


- ▶ Monitored regularly, and by-event for major conferences
- ▶ Example: major conferences, 2020 (= 144 talks, only ICHEP+LHCP!)

Smallest number of presentations



Largest number of presentations



Average 0.06 talks and posters per physicist or PhD student during this time period

Geographical diversity and balancing



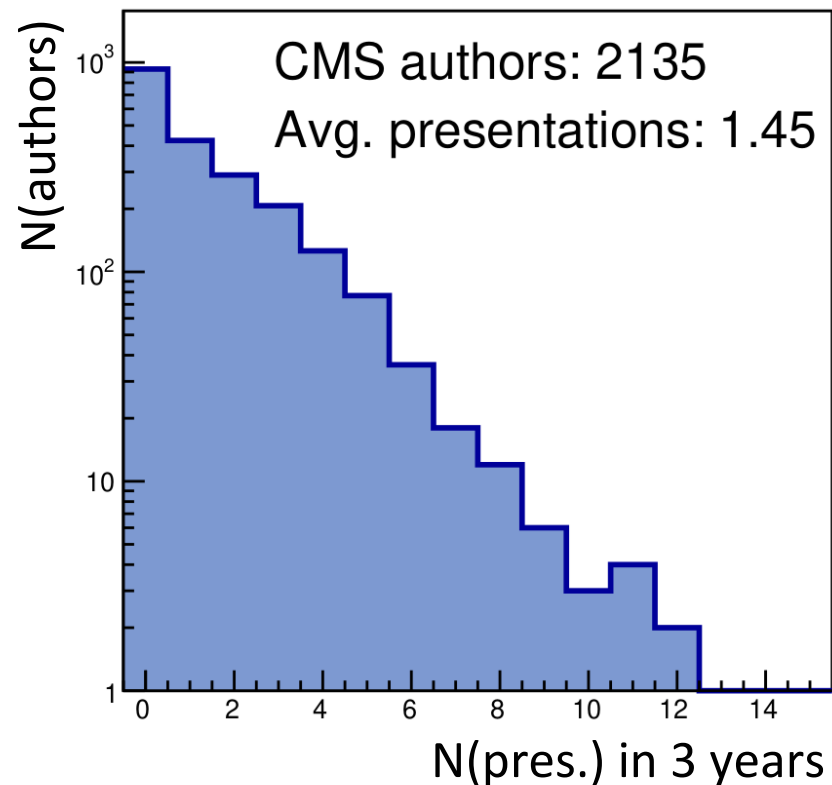
- ▶ Monitored regularly, and by-event for major conferences
- ▶ Example: major conferences, entire DB (~13 years, 2270 talks)



9/2021

Average 1.05 talks and posters per physicist or PhD student during this time period

- ▶ Since 2016, yearly more detailed analysis (data shown here mostly based on snapshot taken on November 24, 2020)
- ▶ 4564 CMS members (... 2016: 4256) – includes admin., engineers, undergrad. students, newcomers, ...
- ▶ 2135 CMS authors (... 2016: 2055)



In 3 years (~2018-20), CMS authors have given on average **1.45 presentations**

For comparison:

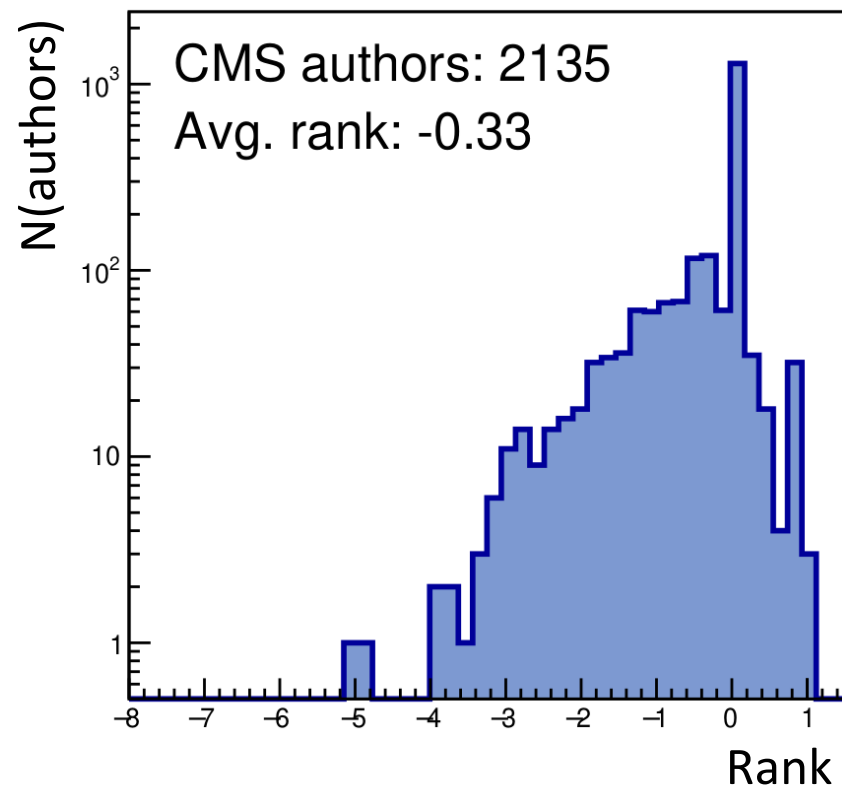
~2016-2018: 1.76

~2014-2016: 1.69

CMS does not have a “quota” on talks given by its members

Distribution of talks

- ▶ Since 2016, yearly more detailed analysis (data shown here mostly based on snapshot taken on November 24, 2020)
- ▶ 4564 CMS members (... 2016: 4256) – includes admin., engineers, undergrad. students, newcomers, ...
- ▶ 2135 CMS authors (... 2016: 2055)



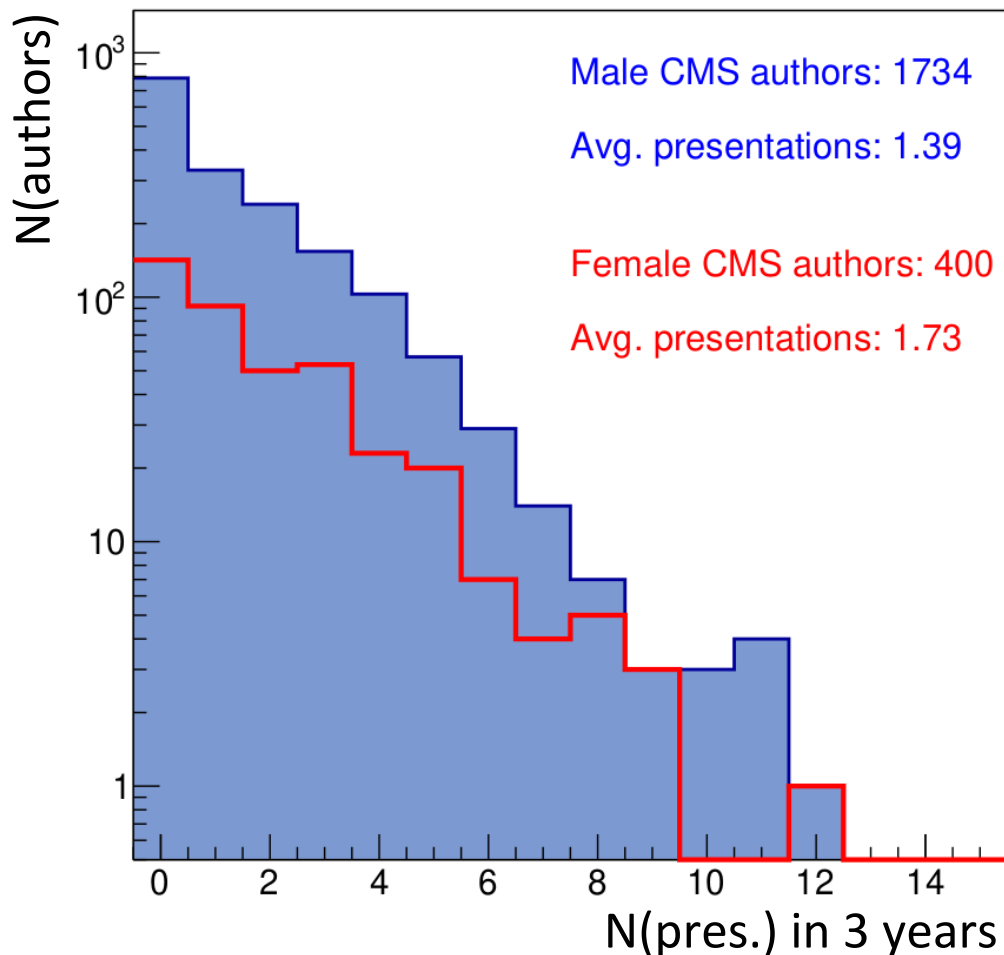
The rank of CMS authors is **-0.33**
on average (covers ~2018-20)

2018 (~2016-18): -0.52

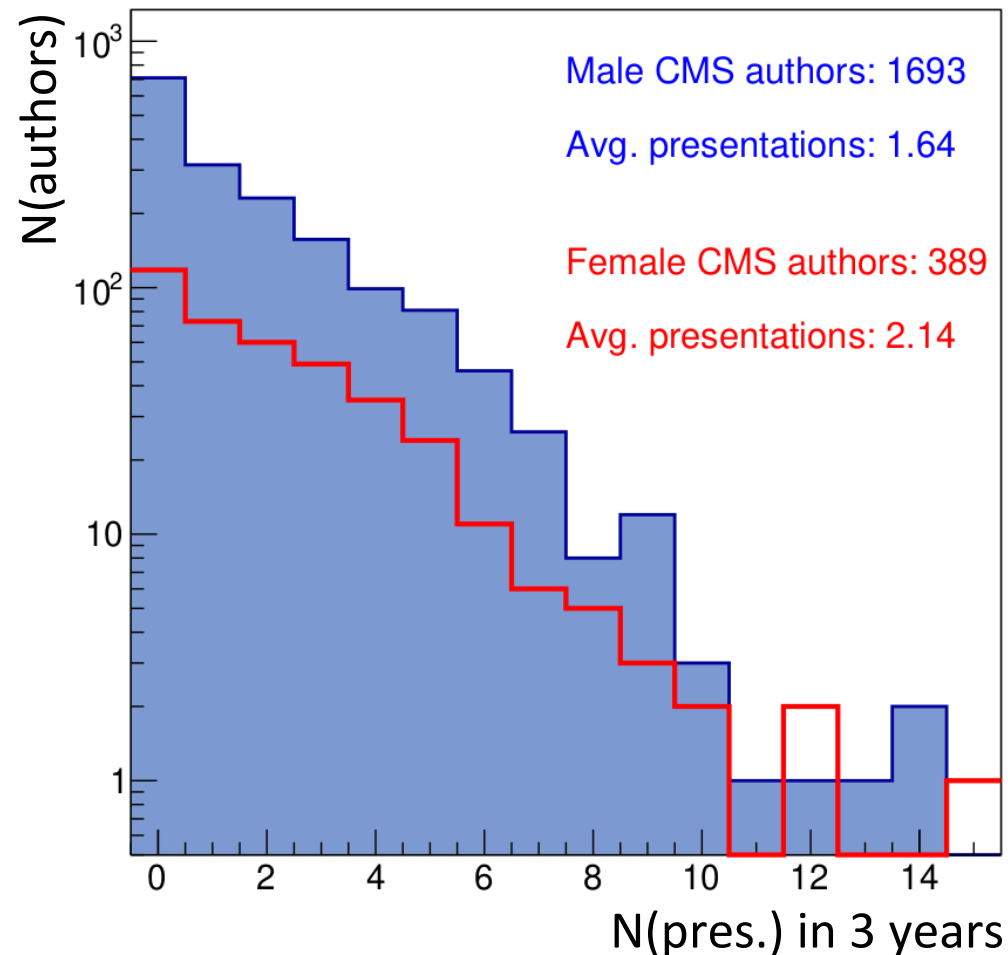
2017 (~2015-17): -0.49

“Rank”: summarizes talk history of last 3 years, including weights by type of talk and conference and other factors.
More talks → smaller rank (details in backup)

Gender bias (presentations / 3 yrs)



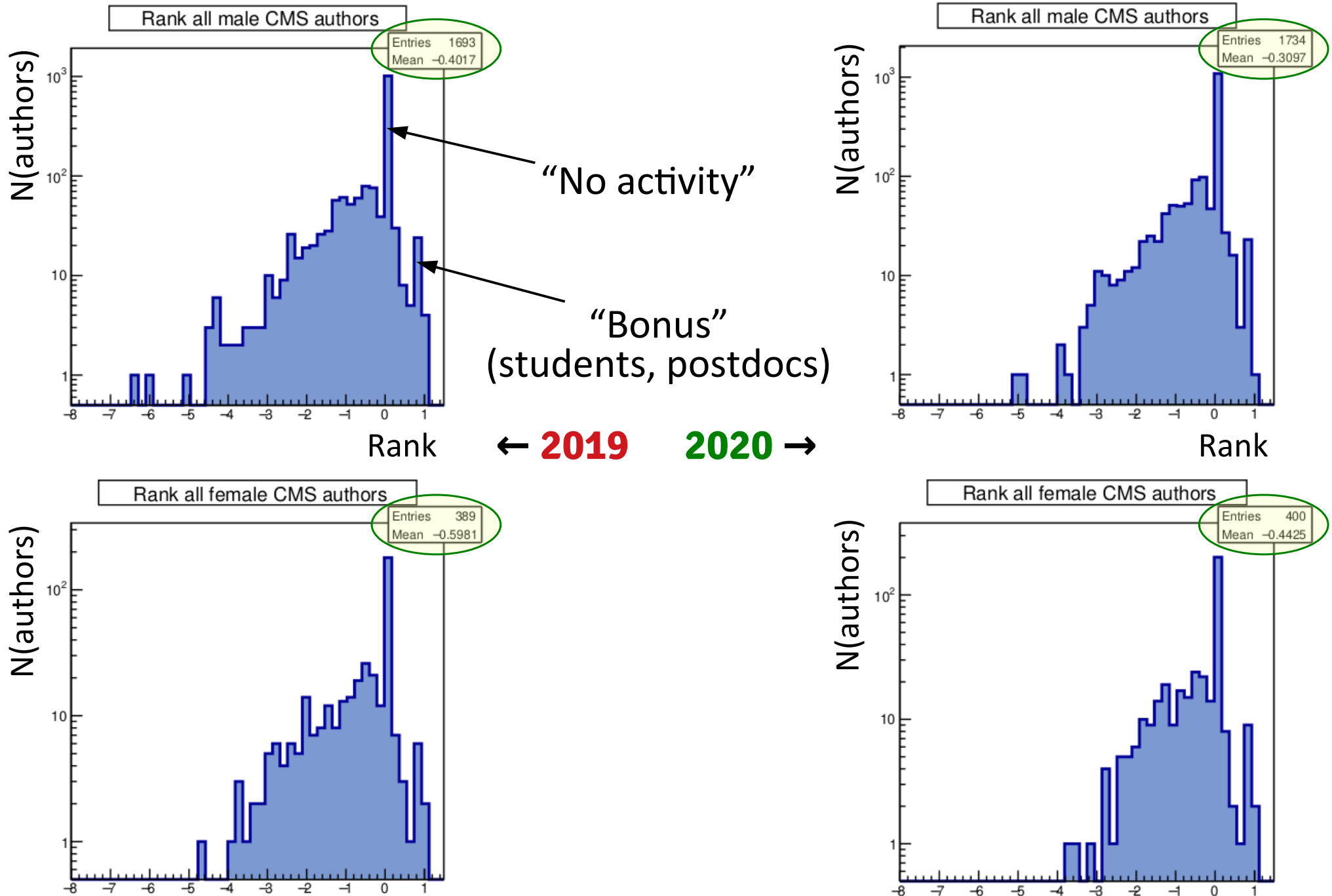
2020 (~2018-2020)



2019 (~2017-2019)

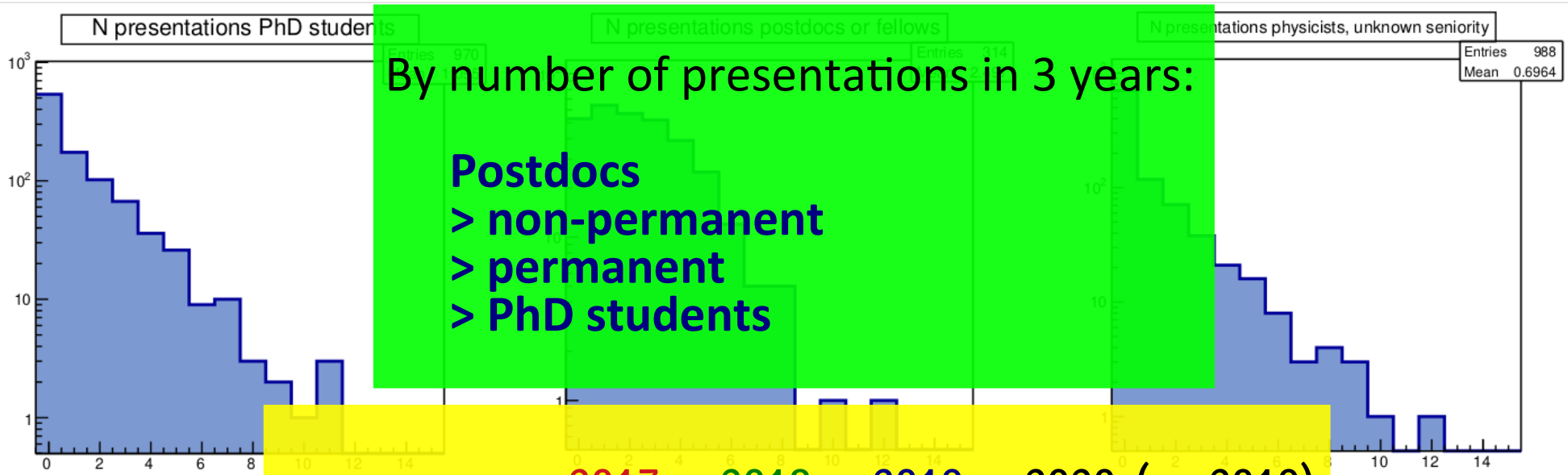
Unremarkable

Gender bias (by “rank”)





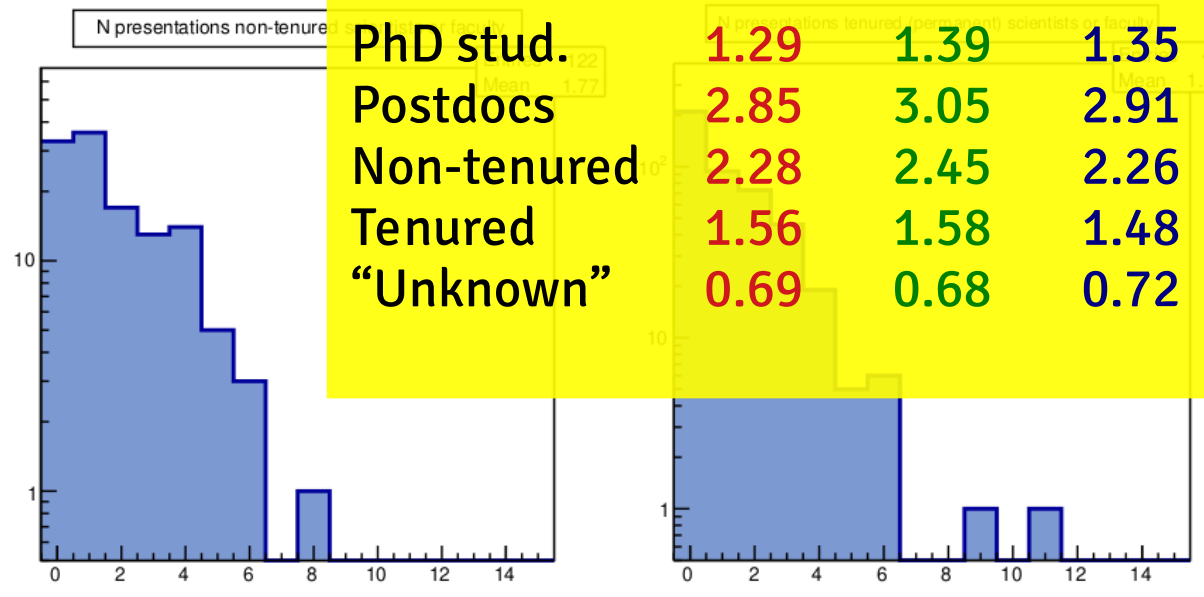
Position bias (2020 vs. 2017/18/19)



By number of presentations in 3 years:

Postdocs
> non-permanent
> permanent
> PhD students

	2017	2018	2019	2020 (vs. 2019)
PhD stud.	1.29	1.39	1.35	1.10 (-19%)
Postdocs	2.85	3.05	2.91	2.50 (-14%)
Non-tenured	2.28	2.45	2.26	1.77 (-22%)
Tenured	1.56	1.58	1.48	1.18 (-20%)
“Unknown”	0.69	0.68	0.72	0.70 (- 3%)

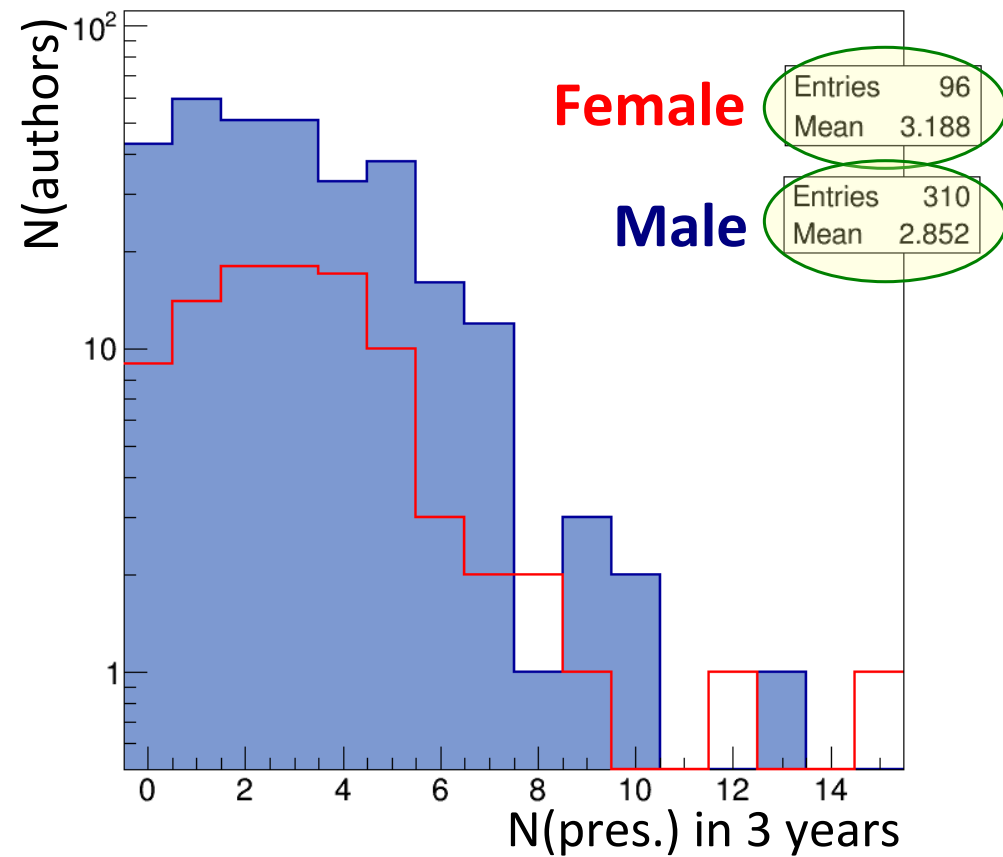


Note position data are not particularly accurate!

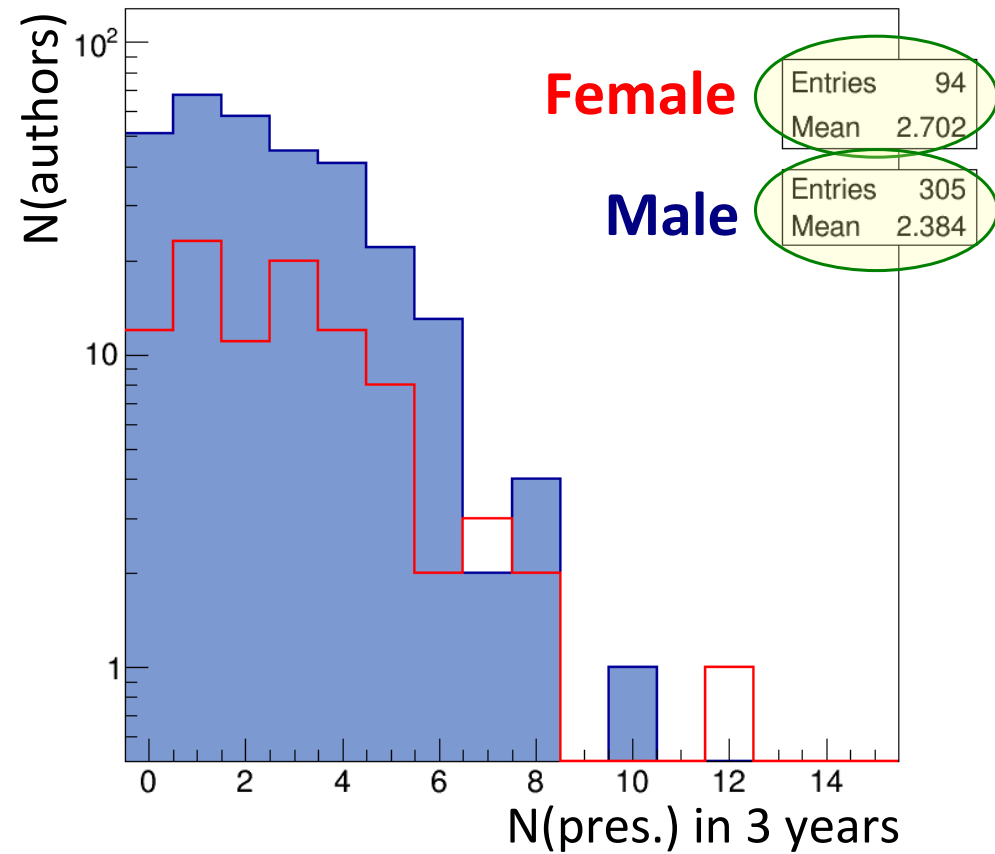
Details: gender and position



Postdocs and non-tenured authors:



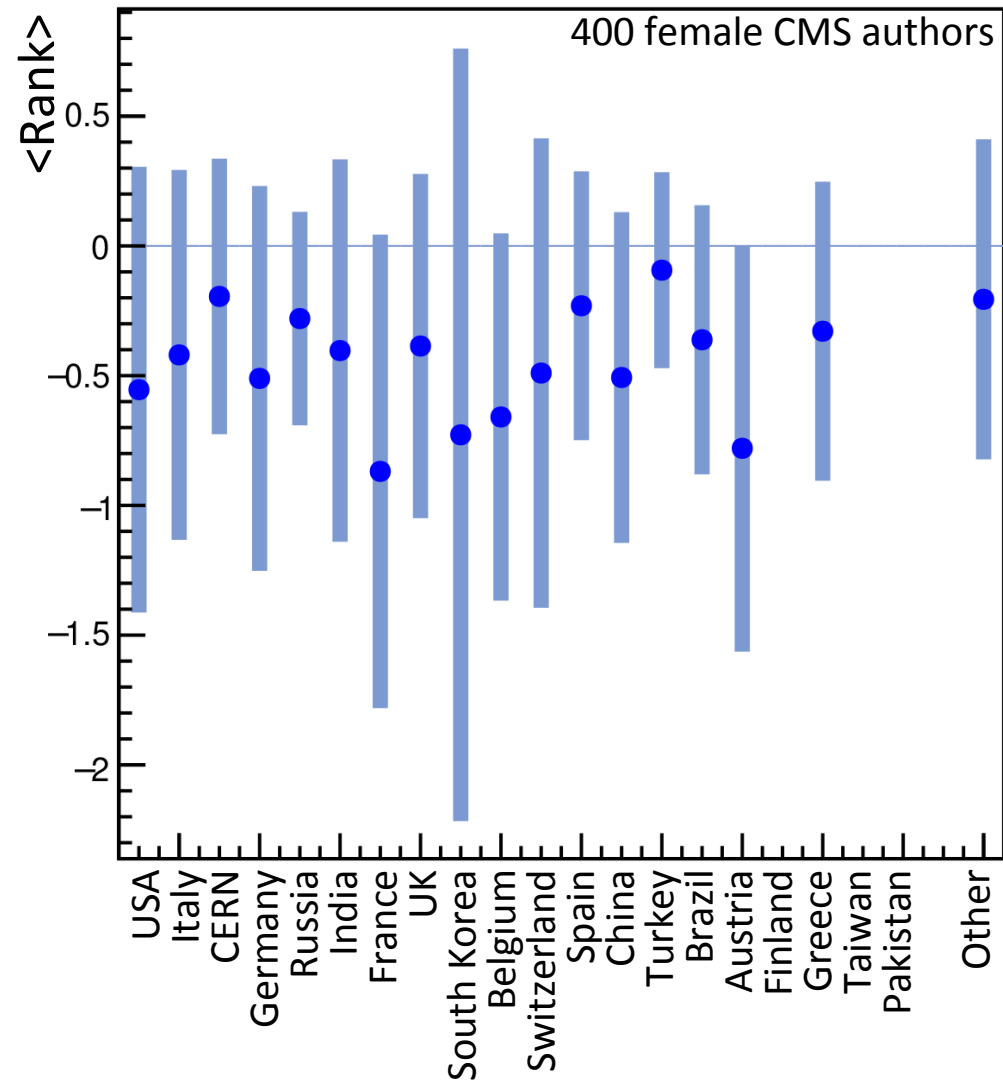
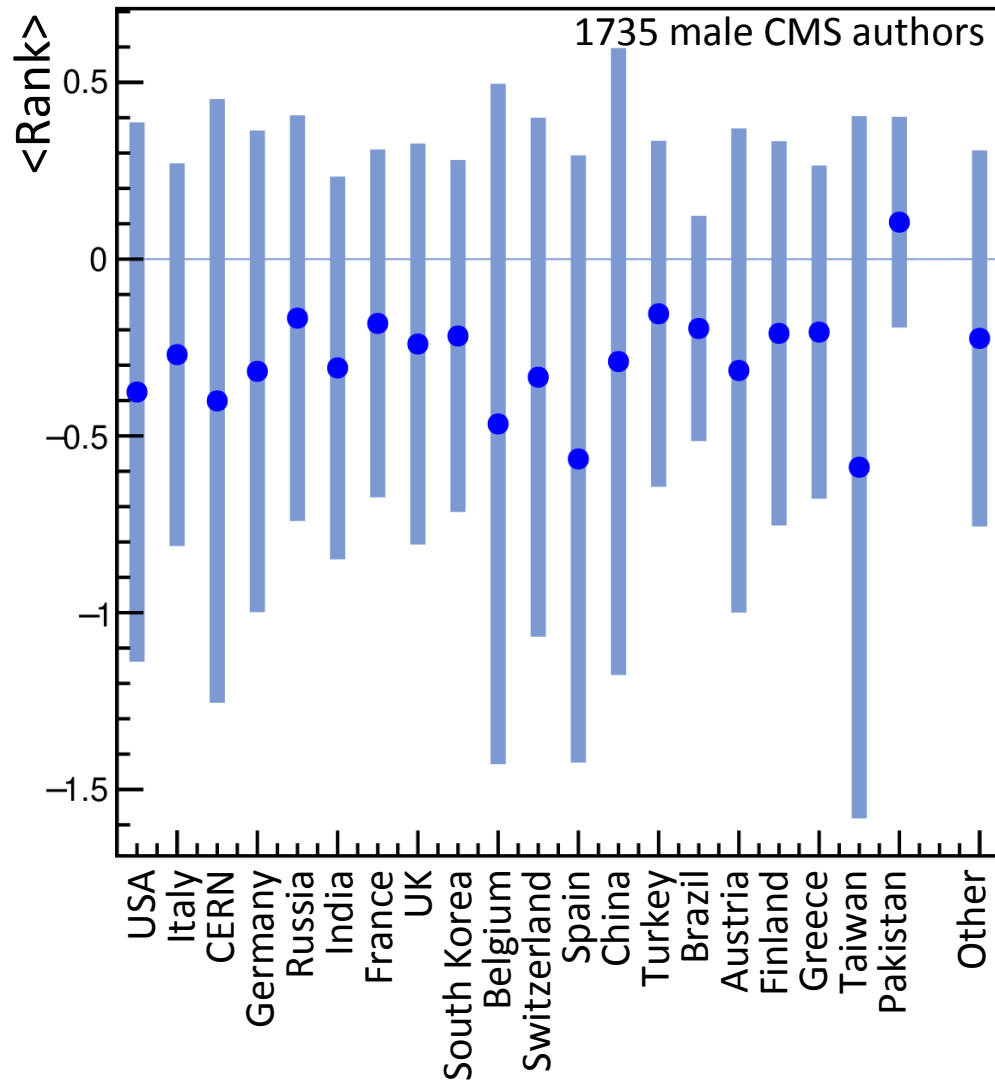
2019 (~2017-19)



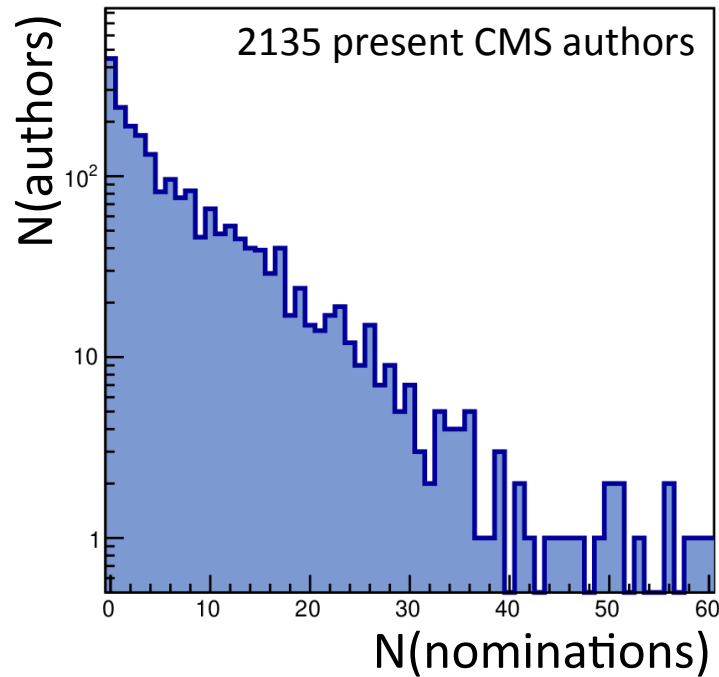
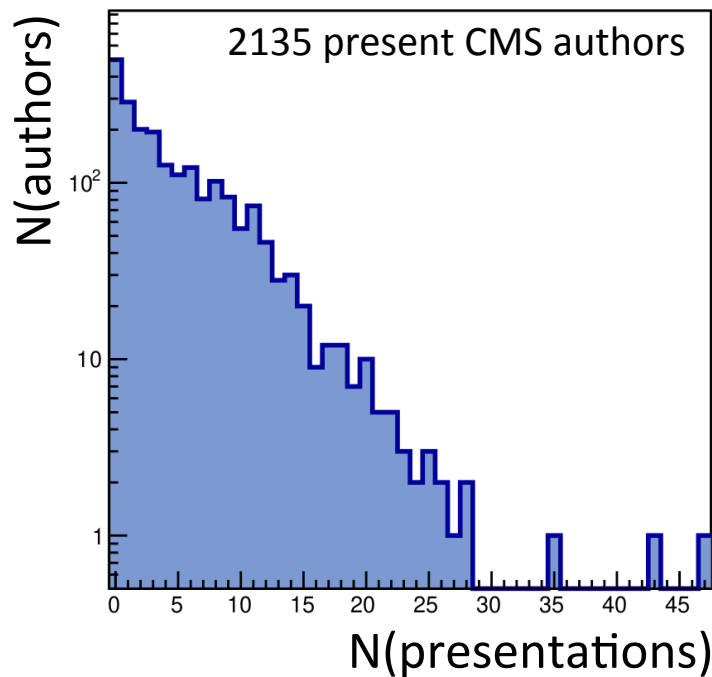
2020 (~2018-20)

Note position data are not particularly accurate!

Additional country statistics (examples)

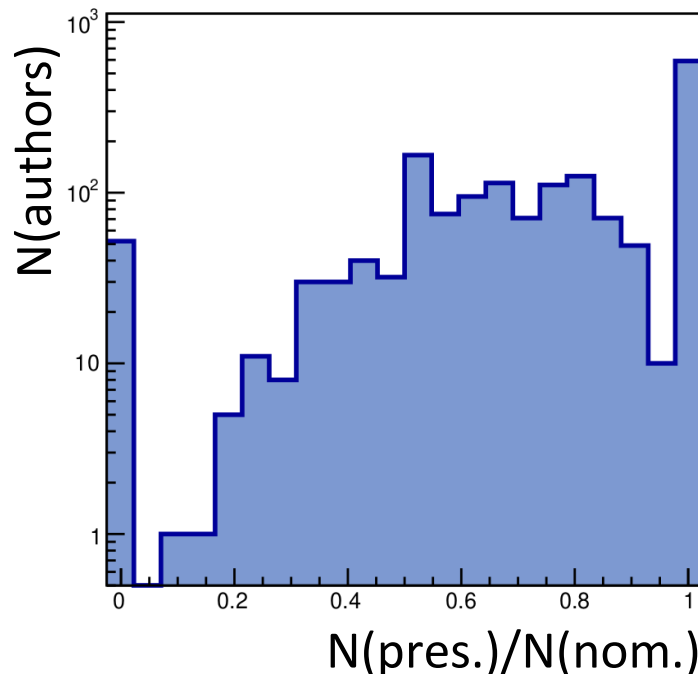


“All-time” data (~13 years)



>**16000**
CMS presentations
altogether
>**11000** by present
CMS members

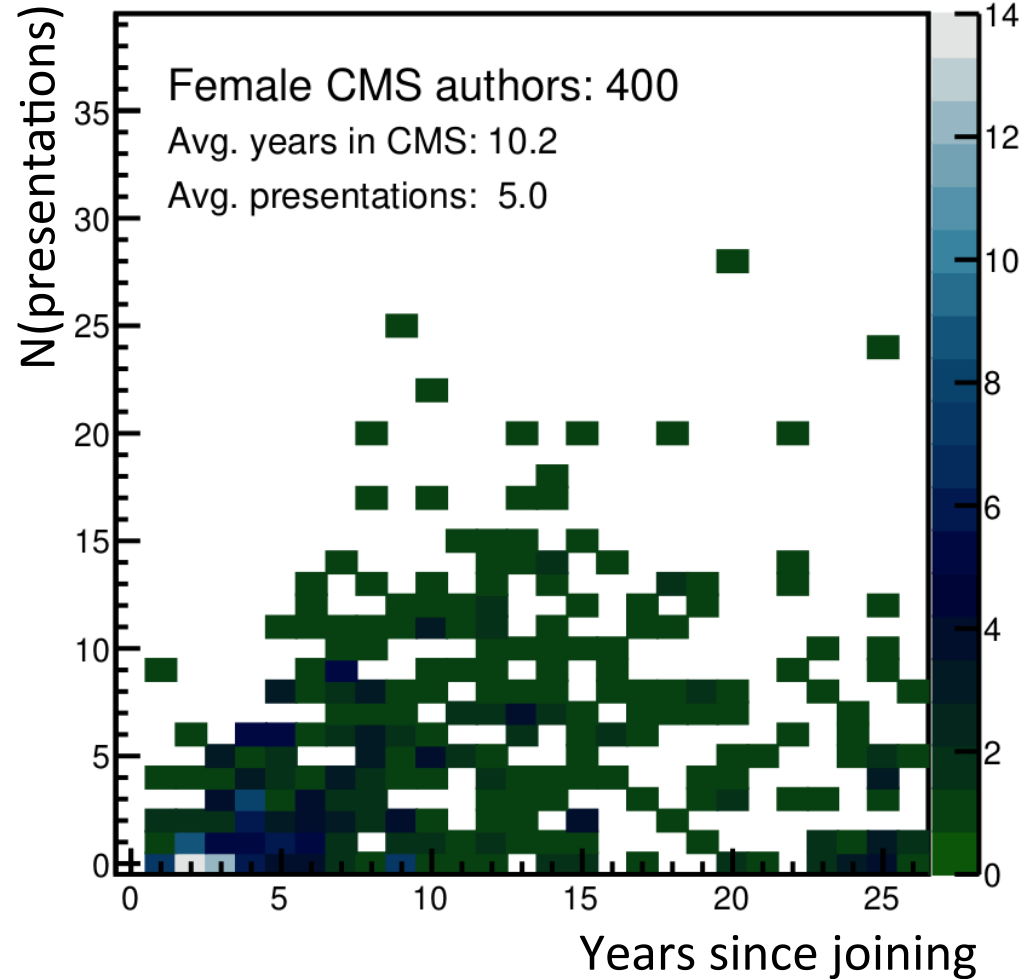
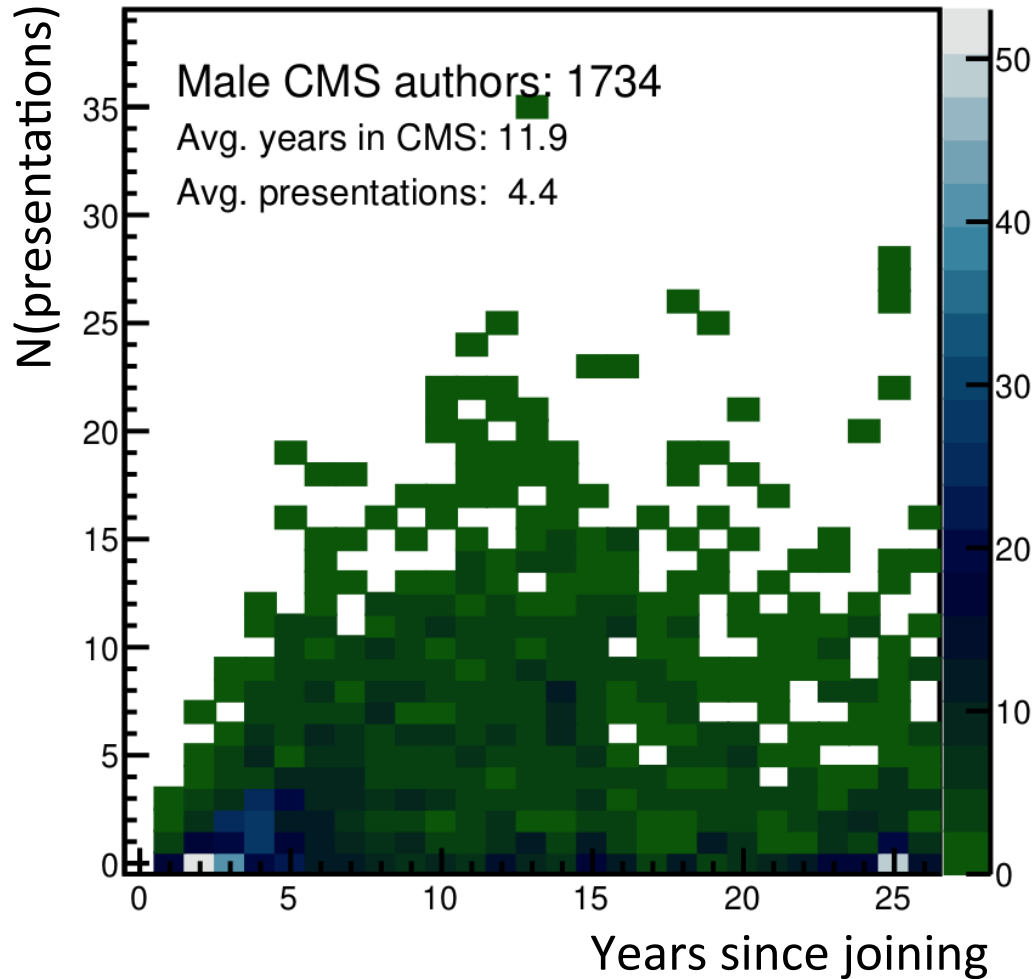
Single authors
with up to **47**
presentations



On average, a CMS author has
a **75% “success rate”** on
his/her nominations

For talks at major conferences,
it is about 50%

“All-time” data (~13 years)



CMS authors with 0 presentations: **499** (248 of these joined before 2011)
Male: **421** (227 ...)
Female: **78** (21 ...)



- ▶ Procedures in place for a **fair distribution** of talk opportunities while ensuring that CMS is well represented
- ▶ Relies on quality **nominations** from all CMS members – in particular supervisors, team leaders, and speakers themselves
- ▶ Monitoring important to ensure **diversity** in the long run – gender, seniority, regional
- ▶ CMS being one of the largest and long-running scientific collaborations, the data collected, along with experiences and observations, may be of interest outside CMS and the HEP community
- ▶ Last year(s) posed many challenges, and CMS tried to minimize hardships
 - ◆ Number of presentations for CMS members in 2020 approximately **50%** of previous years
- ▶ Situation has allowed for **new forms of information exchange** to develop
- ▶ **New opportunities** for participants with limited travel / funding options