

# Diversity and Inclusion Activities in the Belle II Collaboration



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(She/Her/They/Them)

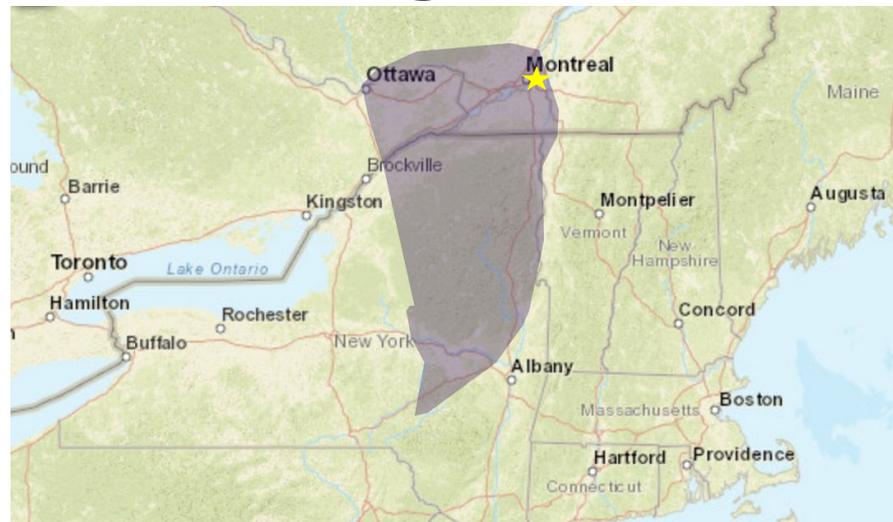
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on behalf of the Belle II Collaboration

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ICHEP 2020  
30<sup>th</sup> July

# Traditional Territory Acknowledgement

McGill is situated on unceded, Kanien'kehá:ka traditional territory. This means that this land was taken, not paid for or given by the Kanien'kehá:ka people.



This site has long served as a site of meeting and exchange amongst Indigenous peoples, including the Haudenosaunee and Anishinabeg nations. Through this acknowledgement I hope to respect the diverse Indigenous peoples connected to this territory on which I work and live in today.

# The Belle II Collaboration



Belle II is a detector at SuperKEKB, a B Factory experiment, based in Tsukuba, Japan.  
Today over 1000 members, institutions spread across 4 continents!



# Belle II Code of Conduct

- Belle II includes a code of conduct within its bylaws [1].
- Added in October 2017
- The code of conduct enshrines principles related to research practice and also fostering a diverse and inclusive collaboration:

*“The Belle II collaboration is committed to fostering an open, diverse, and inclusive working environment that nurtures growth and development of all, and believes that an array of values, interests, experiences, and cultural viewpoints enriches our learning and our workplace. Thus, members shall not engage in violent, harassing, sexist, racist, or discriminatory behaviour.”*

Extract from the *Belle II Code of Conduct*

<https://belle2.jp/diversity/>

[1] <https://confluence.desy.de/download/attachments/34997090/Belle%20II%20bylaws.pdf>

# Belle II Diversity Officers

- In October 2018 Belle II created the positions of two diversity officers.
- The diversity officers exist to:
  - Promote an inclusive environment within the collaboration;
  - Provide a safe and confidential point of contact for any collaborator to report any issues, particularly those related to discrimination, bullying, or harassment within the collaboration;
  - Ensure that persons from marginalised groups are appropriately considered for positions of responsibility in the collaboration and are supported in their careers;
  - To encourage and publicize the collaboration's events and efforts promoting equity.



*Kay Kinoshita*

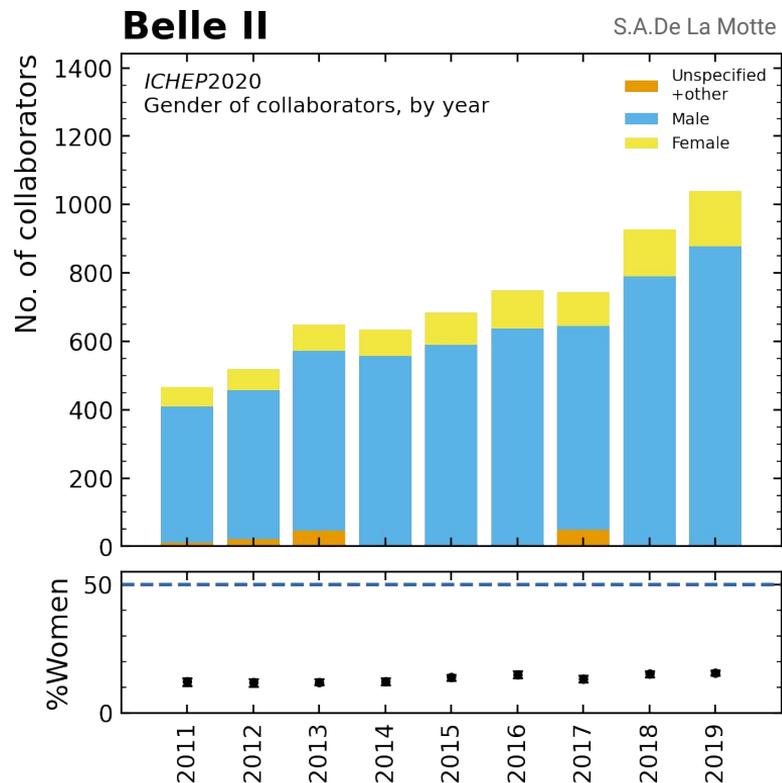


*Matt Barrett*

Thank you to Kay and Matt for the data collection that has made this talk possible.

# Collaboration demographics

- The gender gap in physics is one of the highest in science.
- The gender gap at Belle II is sadly 'normal'.
- Data from 2011-2019 is the Belle 2 membership data.
  - Percentage of people that are women within the collaboration is only increasing slightly each year. (12.2±1.5)% in 2011 to (15.6±1.1)% in 2019
  - Acknowledge the issues in the way data is often collected, with respect to a gender binary.

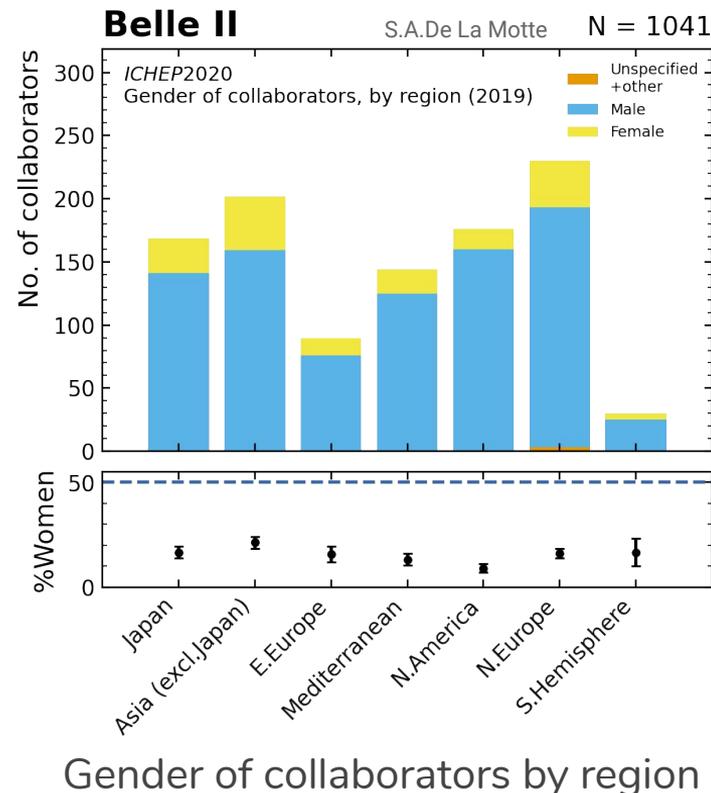


\*In 2017 Belle II switched to a new membership management system, some information for 2017 is incomplete, valid for all plots

# Collaboration demographics

- Data is grouped to ensure anonymity
- Inspired by ATLAS' "Studies related to gender and geographic diversity in the ATLAS Collaboration" (ATL-GEN-PUB-2016-001) groupings

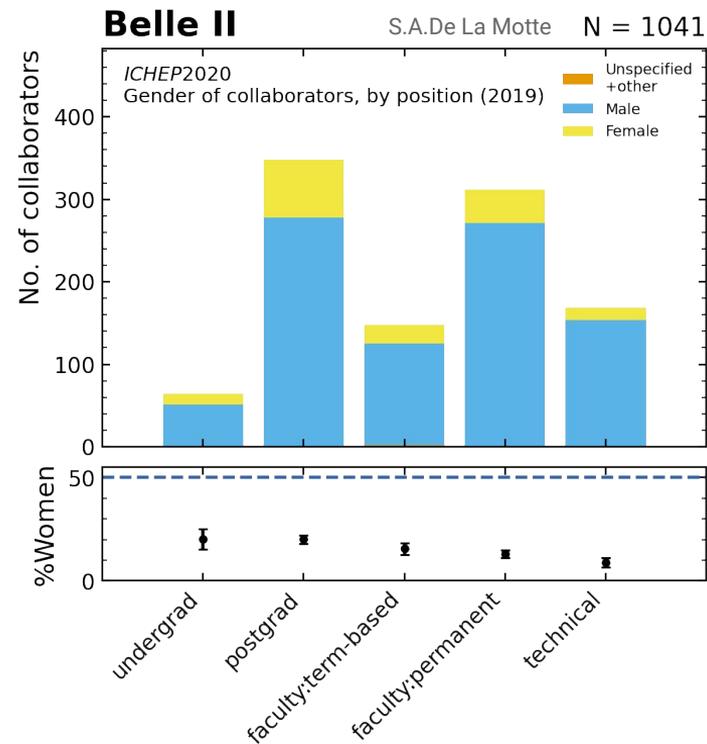
Region	#People	%People(in Collab.)	#Women	%Women(in Region)
Japan	169	16.23	28	16.57
Asia (excl.Japan)	202	19.4	43	21.29
E.Europe	90	8.65	14	15.56
Mediterranean	144	13.83	19	13.19
N.America	176	16.91	16	9.09
N.Europe	230	22.09	37	16.09
S.Hemisphere	30	2.88	5	16.67



\*Region definitions can be found in the backup slides

# Collaboration demographics

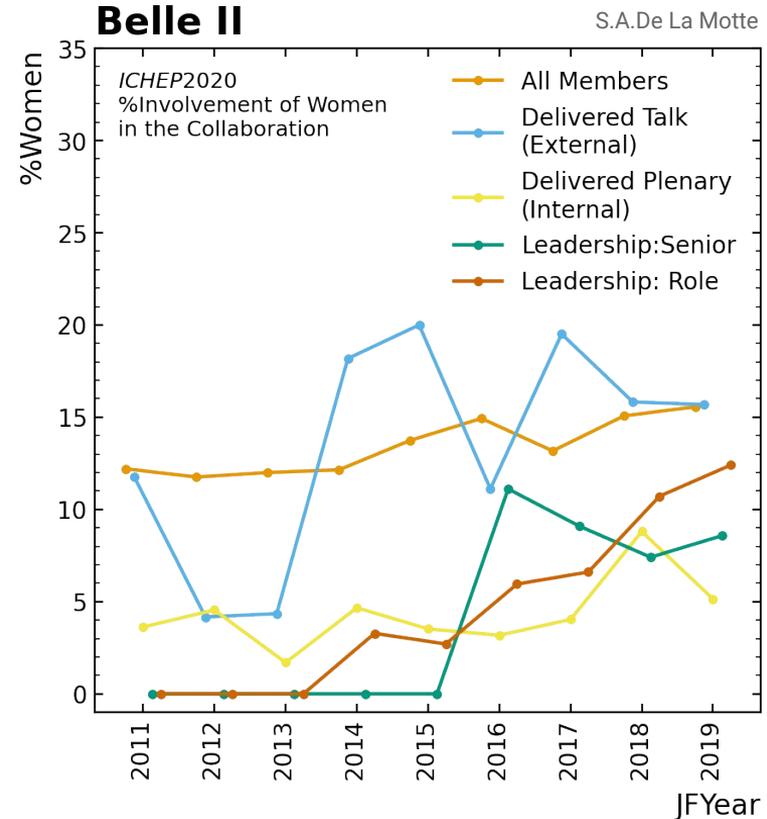
- Percentage of collaborators that are women **drops** as their career progresses from postgraduate to permanent faculty in a statistically significant way.
- We are not exempt from the coined 'leaky pipeline', but perhaps, optimistically, there is the potential for change.



Gender of collaborators by position

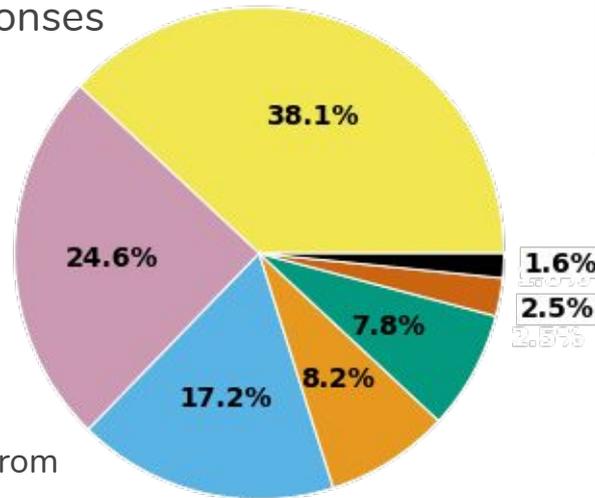
# Representation within the collaboration

- Yearly data collected on the percentage of womens' recognized involvement in the collaboration.
- “Delivered Talk (external)” is for conference talks and is notably choppy - we are a young collaboration, the number of talks we gave started to increase in 2017.
  - Also includes cancelled talks from Moriond2020 due to COVID19 (does not change much)
- Overall upwards trend - not enough for proportional gender representation in the near future.



# Belle II membership survey

- Belle II conducted a membership survey in 2018.
  - Inspired by survey conducted by LHCb.
- It took ~6 months to get responses from ~240 collaborators.
- Students were particularly elusive when trying to get them to respond to the survey.
  - **Reasons could include:**
  - Lack of motivation to (long)
  - Individuals being identifiable from demographic information.
  - Reluctance to give information via google forms.





# Why your organisation should collect data too

In last year's Nature article 'Data on Women in Physics' states that collecting high-quality data is the way forward in creating an inclusive workplace!

We can learn where our issues are!

For example, Belle II learned that ~25% of those that took this survey have, at some point in their career at Belle II, “withdrawn from consideration for a leadership role at Belle II (implicitly or explicitly) because of the impact it would have on [their] family life.”

We encourage your organisation take data too!

[2] Data on women in physics. *Nat Rev Phys* **1**, 297 (2019). <https://doi.org/10.1038/s42254-019-0061-3>

# Social Media

- Belle II is active on Facebook, Twitter, and Instagram.
- Use social media to raise awareness of events including:
  - International Women's Day,
  - LGBTSTEM Day,
  - Colo(u)r Blind Awareness Day.



@BELLE2COLLAB

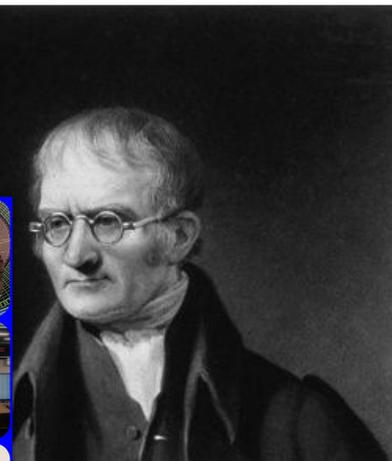
Belle II Collaboration  
12 February · 🌐

Happy #InternationalDayofWomenandGirlsInScience from all Physicists who came from around the world to collaborate at the Winter #Belle2 General Meeting at KEK 高エネルギー加速器研究機構! At this #B2GM, we acknowledged the indispensable participation of women in STEM. We all work together to crack the mysteries of the universe, irrespective of gender. At the same time, we recognize that our field has far fewer women than men, and strive to support and encourage the participation of more women and girls in our joint research.



Belle II Collaboration  
7 September 2019 · 🌐

John Dalton was a physicist, chemist, and meteorologist who was born on the 6th of September 1766; colour blind himself, he made some of the first scientific studies of colour blindness. "Daltonism", in fact, was one of the first names for red-green colorblindness, the most common form of the visual impairment. The 6th of September is now designated as #ColourBlindAwarenessDay, recognizing the vision deficiency that impacts approximately one in twelve men, and one in 200 women. Today #Belle2 members are considering the display screens we have in our control room, and the graphs and histograms we make for our analyses, to make them as accessible as possible to people with colour blindness.



# Support for LGBTSTEM Day



- Belle II became an official supporter of LGBTSTEM Day in 2019.
  - Only supporter based outside of Europe and North America\*.
- Social media posts in support of LGBTSTEM Day in both English and Japanese.

We encourage other (Japanese) research institutions to support ready for November 2020!



Belle2実験

5 July 2019 · 🌐

本日2019年7月5日は科学、技術、エンジニアリング、および数学におけるLGBT+Peopleの第2回国際デーです。

Belle IIコラボレーションは、この国際デーのオフィシャルサポーターであることを誇りに思っています。

私たちはLGBT+ コラボレーターを支持し評価します。そして私たちはBelle IIを人々の個性を大切にする安全ですべての人を受け入れるコラボレーションにすることを約束します。

#Belle2 #LGBTSTEMDay

\*Depending on how IceCube and DES are counted.



# Making our language inclusive

- Our computing and software groups have taken steps to remove or phase out the use of the word “slave” from our code.
  - In some cases not straightforward where the word is used by external software.
  - It was used in our automated build system - removed from build machines for new operating systems from el8 onwards.
- Suggestion to remove the word “master”:
  - Some resistance as it is very widely used, including by many major technology organisations.
- This situation is now changing:
  - Revisiting issue and reviewing coding guidelines.
  - You’re able to do it yourself!



## GitHub to replace "master" with alternative term to avoid slavery references

GitHub getting on board legitimizes movement aimed at removing racially-charged language from software.



# Belle II during COVID-19

- Belle II completed a physics run from February - July 2020.
- We had to rapidly change our plans due to COVID-19 (see talk by Kodai Matsuoka for more details)
- Even with everything we were still able to continue collecting data, and actually broke the worlds' instantaneous luminosity record thanks to the hard work of the local and remote workers!
- Belle II provided some food (snacks and ready meals) in the control room and one of the office buildings.
  - To show appreciation for shifters.
  - To reduce need for people to visit supermarkets.
- Some social events (e.g. end of run party) held via Zoom.



# Belle II during COVID-19

- Remote Belle II collaboration meeting held in late June 2020:
  - The only other time this happened was in 2011 after the Great East Japan Earthquake
  - Collaboration split between multiple time zones - always at a bad time for someone.
  - Meetings at unsocial hours may be more of a burden for those with dependents.
  - Recordings and session replays helped but cannot fully ameliorate issue.
  - Some meetings were split into two sessions to allow presenters to choose a friendlier time slot, often a fair split between Asia, Europe and Northern America friendly time zones.
- **Food for thought:** After the pandemic, should collaborations keep some or all of their meetings remote?
  - Either totally remote or improved online availability for accessibility?
  - Less travel! Less costs! Less environmental impact!

# Initiatives at the KEK laboratory

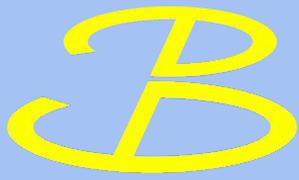
KEK is very receptive and dedicated to the issues that are coming to light.

- The Belle II secretariate worked to make childcare easier to find
- KEK is working on improving bathroom accessibility
  - Has recently improved the dormitory bathroom provision for women.
  - Trying to improve the bathroom provision for women in experimental areas.
  - Gender neutral bathroom by the Control Room: request submitted by the Belle II IB.
- Belle II members help out with proofreading some English versions of documents and webpages at KEK.
  - Often Japanese-English translations and/or cultural connotations evolve quicker than KEK document revisions. There may be archaic or outdated terms, e.g. for medical terminology that KEK are working to improve.
- Asking external providers for more variety in available food options at KEK.
  - Reluctance as vegetarian options don't sell well.
- Colour blind friendly screens in our Control Room!



# Initiatives and goals

- We would like to continue raising awareness within the collaboration
  - More social posts, emails, normalising making things accessible
- Raise awareness of unconscious biases.
  - Can we provide links to training or courses on identifying these biases?
- Be more visible!
  - Currently: Diversity plenary during every close out session of collaboration meetings
  - Currently: Diversity parallel session every collaboration meeting
  - Aim to have diversity topics mentioned at the beginning of meetings/workshops
- COVID-19 and video conferencing best practices
  - Recommending camera on (at least whilst talking) for facial cues
  - Being understanding of mental health



*Belle II*

# Thank you!

We would like to not only better our collaboration to make it a more inclusive space, but to work together with the wider physics community to better the field of Physics as a whole.

We would love to hear suggestions, and share our ideas.

There is still a lot to be done!



# Backup - Gender and Region

Inspired by ATLAS, collaborators were assigned a country by their home institution (not nationality, residence, whether based at Belle II)

ad-hoc definitions:

- **Japan**
- **Asia (excl. Japan):** China, South Korea, India, Taiwan, Thailand. Armenia, Saudi Arabia, Malaysia, Viet Nam
- **Eastern Europe:** Russia, Slovenia, Czechia, Poland, Ukraine,
- **Mediterranean:** Italy, France, Spain, Israel, Turkey
- **North America:** USA, Canada, Mexico,
- **Northern Europe:** Germany, Austria
- **Southern Hemisphere:** Australia



# Backup - Resources for Colour Blind Friendly Plots and Displays

## Colour blindness simulators

- There are a number of websites and apps that can be used to show how a image may look to a person with different types of colour vision deficiency, for example:
  - [www.color-blindness.com/coblis-color-blindness-simulator/](http://www.color-blindness.com/coblis-color-blindness-simulator/)
  - [www.colourblindawareness.org/colour-blindness/colour-blindness-experience-it/](http://www.colourblindawareness.org/colour-blindness/colour-blindness-experience-it/)

## Colour blind friendly plotting

- There are also a number of websites that help you choose a colour blind friendly colour scheme for your plots and displays, for example:
  - [ifly.uni-koeln.de](http://ifly.uni-koeln.de)
  - [colorbrewer2.org](http://colorbrewer2.org)