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NUCLÉAIRE
& PARTICULES

Early career scientists

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Symposium national - Préparation de la contribution de la
communauté française à l'ESPPU

21/01/2025

Context

Set of points/thoughts driven by discussions in French meetings & through the **ECFA ECR WG**

- **ECFA**: European Committee for Future Accelerators;
- **ECR**: Early Career Researchers:
 - Non-permanent position or < 8 years after PhD.
- **WG**: Working Group
 - Since the last Update of the European Strategy for Particle Physics, a panel was formed (see mandate [here](#)):
"to discuss all aspects that contribute in a broad sense to the future of the research field of particle physics.
In its **advisory role** to ECFA, the panel reports to ECFA on a regular basis"
 - There is up to 3 representative per country, here is an example for France (see [here](#) for more infos):
 - Bruno ALVES, PhD student, CMS
 - Louis PORTALES, Staff, CMS
 - For French ECRs specifically, a mailing list now exists, through which relevant events are advertised
 - *ecfa-ecr-france* on <https://groups-portal.web.cern.ch/>
 - subscription is open, please do, and encourage ECRs in your labs to do so!

To mention 1 ECR member acts as secretary in each ECFA WGs.

A few conclusions from earlier meetings

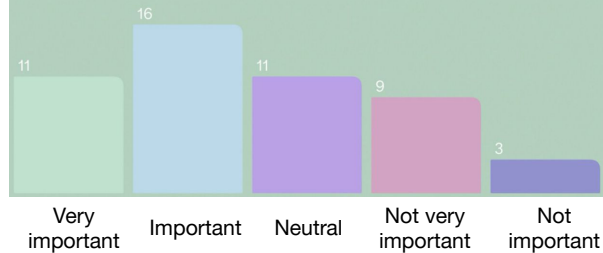
Some **sub-groups** formed to prepare the white paper:

- Future **colliders**;
- Future particle physics experiments **beyond colliders**;
- Interplay of particle physics with **neighbouring fields**;
- **Communicating** the importance of particle physics;
- **Career** prospects and ECR leadership.

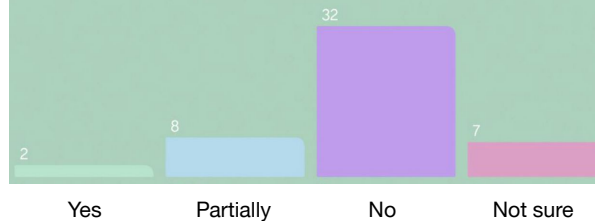
What is important for ECR for the future of particle physics in Europe ?

- **Stable** carriers and funding;
- **Enthusiasm** for flagship projects;
- **Flexibility** to react to new results;
- **Sustainability**.

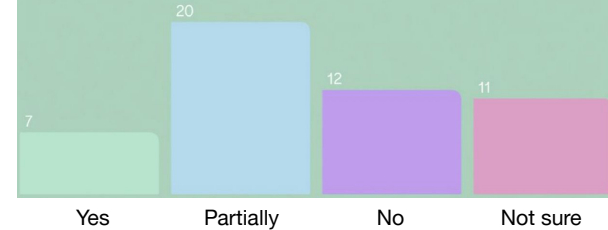
How important is it for your career to choose a specific future collider?



In your opinion, are ECRs adequately represented in decision-making processes related to future colliders?



Do you believe your opinions and concerns are taken into account in the field?



These are the feedbacks from participants of the ECFA workshop → informed answers.

Wider survey conducted previously (published in [2404.02074](#), see back-up):

[New survey for ESPPU input preparation](#) under circulation, to be filled by Jan 27

Points brought up by/about ECR

Very **few mentions** of ECR in French inputs to the ESPPU

•Two identified:

Ecological impact and sustainability

Environmental impact, sustainability and energy efficiency are important issues for all of us and especially our younger colleagues. [REDACTED] has prepared a chart of commitments on the impact of our activities. We expect that any future major construction project will minimize its impact and adopt environment friendly planning and practices. There is also a considerable space for technological innovations to achieve high efficiency, that could benefit the whole society.

The education and training of young physicists are crucial for the needs of the field and of society at large. We feel important to offer them the opportunity to analyse physics data during the construction of the next collider by maintaining our full activity in the HL-LHC program. We also have to transfer our key expertise in electronics, information technology, instrumentation and mechanics, independently of the choice of the future collider.

But **(informal) feedback** received, from self-organised ECR discussions in some labs & direct contacts with us

•Mostly from ATLAS/CMS & neutrino ECR communities

- *Some concern about ensuring a solid “plan B”* – Preferred option(s) should be made clear
- *Not always “thrilled” about precision measurements* – Improve internal communication of their relevance?
- *Overall little knowledge about FC projects* – More communication in schools, seminars, [ECR workshops](#)?
- *Not clear how to balance time between FC & current projects* – How critical is “direct” involvement at this stage?

BACK-UP

Useful links

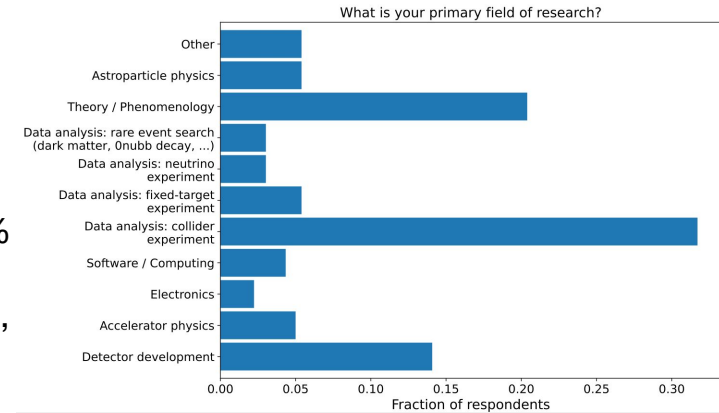
- A [mattermost](#) channel has been created to foster the discussion and the organisation for the white paper !
- A [dedicated session](#) was organised during the previous ECFA meeting in Paris open to everyone remote.
- An [Early Career Forum](#) also organised as part of the 8th FCC workshop at CERN
- A [symposium on the european ECR inputs to the EPPSU](#) will be held on 20-21 February

ECR wider survey

In 2022/2023 a **wider survey** was conducted by the ECFA ECR Panel to understand career prospects, diversity and sociological aspects in our field, results can be found at 2404.02074

● 759 respondents from 39 countries:

- < 10% with permanent position;
- 50% of the respondents were employed in Northern Europe , ~ 25% in Mediterranean Europe and ~15% in Central and Eastern Europe;
- 26% of participants identified as part of an underrepresented group, primarily due to gender, followed by ethnicity and socio-economic background.



ECR wider survey

›Career perspectives and support:

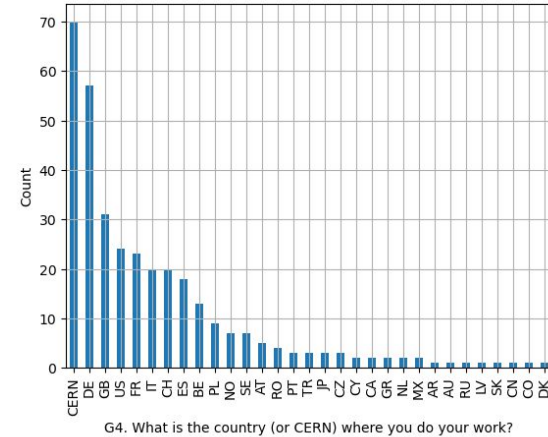
- Limited awareness of available funding and training resources;
- Most ECRs do not discuss career prospects often enough with supervisors or senior researchers.

›Work-life balance:

- High importance placed on flexible working hours and a positive work environment;
- Stress and frequent overtime quoted, with work-life balance and job stability to be improved.

›Career mobility and challenges:

- Family and social challenges were prevalent for those who relocated.
- Many respondents expressed a desire to return to their home countries eventually.



Selected interviews

On top of the macro perspective, I conducted a few **selected interviews** in my group with different ECRs:

- 30' to 1h discussion on various topics: open answers with details
 - hard to generalise but useful as inputs of reflexions.
- Biases: mainly French persons, only ATLAS group, small batch and ... I never studied social sciences !

Very little knowledge on existing projects:
FCC quoted at best,
Decision process considered opaque,
Needs history on process for LEP/LHC

Big collaborations:
have pros and cons → still worth
pursuing for the future

How to get involved:
balance between actual and
future projects.

Location:
Europe is quite central,
Switzerland is seen as neutral,
geopolitics can play a role in
decision

Physics case:
Not thrilled by precision measurement,
need to be agile and open for any NP that
would show up

No reflexion on **economical** and **ecological cost** of the machines. I perceived some interest in discussions but some limitations for what concerns external consequences outside of physics or the internal organisation.

