Early Career Researchers: Perspectives & Questions for the Panel

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Format, Goals, etc.

- A survey was sent out to ECR LCWS participants and several national/international ECR mailing lists
- Goal: - understand interests/concerns of ECRs regarding future projects
  - collect questions for the Q&A Panel discussion
- Answers received: 22 (some of them made sure of the anonymity before answering)
- Note: not intended as a representative survey, but to get an idea about which topics people would be most interested in for this session!
- Deliberately used widely phrased questions with free-text answers

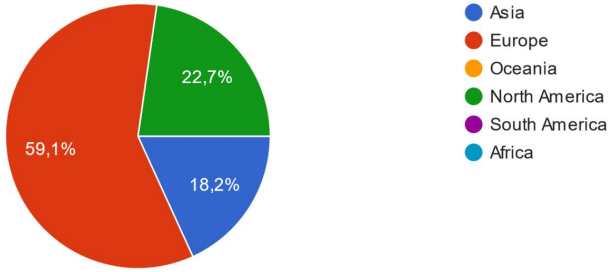
General Info

What is your career stage:

22 Antworten

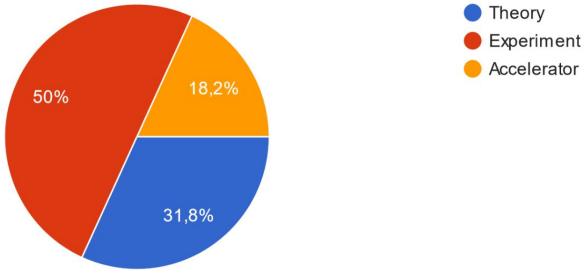
In what region are you based:

22 Antworten



Do you work primarily in:

22 Antworten



Q: What conditions would a future project have to fulfill in order for you to get excited about it?

Physics:

"Able to reach full potential of **Higgs and EW Physics** including Higgs self-coupling, ttH, …"

"[…] should probe **BSM scenarios** till a few tens of TeV…"

"Help in **indirect searches / precision physics**"

Technology:

"**Upgradable** to new, game changing technology as plasma acceleration"

"[...] **interesting / challenging hardware** (mu collider / storage ring? innovative detector technologies) [...]"

Feasibility/Sustainability:

"It should be feasible in terms of **funding and technological difficulty** and also provide a **clear motivation** [...]"

Time scale:

"It should become active in a time **before we retire**"

"The **project has started**, eg. starting construction, or have steady source of funding support."

"[...] sustainable from an **environmental** point of view."

Other:

"Offer **participation** for young researchers to dedicate their career, **career perspectives**"

"Scientific work should be free from political influence [...] more **diverse** and **tolerant** working environment than now [...]"

Q: What are your general feelings about the direction of collider physics as an early career researcher?

"Do you build with [technologies] we know and have **now, or wait**?"

Physics & Technology:

"We need a **collider to study the properties of the Higgs particle**."

More attention is giving to finding new particles than helping with the poorly known **qcd-plagued lower energies**

Funding:

There are many ideas going forward but also **strict limitations on public funding** and **environmental** considerations. I'd like some **more realistic positions in discussions**

Leadership and Decision-making:

"Decisions are taken by the elder generation **without [...] taking care of the younger's opinion**. Just asking for it is not enough, it also must be taken into account for decisions."

[Young people leaving the field] worsens the **imbalance in the age distribution** [...], with even more senior people who are taking on more managerial roles instead of actually "doing the work"

Communication:

"if the community wishes to survive, we all need to **build a compelling vision** for the new physics we want to learn moving forward"

The "bright side":

"Excited and Enthusiastic"

Q: Do you have any concerns about your career that are particular to working in collider physics?

Timelines/
Long-term career perspectives:

I am concerned that in the long run, [funding agencies' shift in focus from colliders to smaller experiments]will lead to a **depletion of funding for collider physics** and to **shrunk career opportunities** in that field.

"Our projects are on the same **time scale as a whole working life**, so it would make sense to offer **career perspectives also on this time scale** to keep the people need for such projects."

"Hey, does anyone want to **hire a post-doc** in about 6 to 12 months? (this is both a joke and a real point on the **job climate**)"

Balancing multiple projects:

"[Working in big collider collaborations] is often only compatible for people who can afford to spend 100% of their time for it [...], this is often in **conflict of required institutional duties** [...]"

Transitioning from working on a major experiment that you have to contribute to, to **dividing my time with other future projects**

Other concerns:

"Working on future experiments is **not considered priority by** some of my theo. and exp. **peers**. I personally won't dedicate more time if there is no **clearer support**"

"Not being able to contribute in the meaningful way due to **political** [...] **reasons**"

Q: Do you feel that your views, concerns, etc. are adequately represented within the field?

Work attitude:

Fortunately, **old-fashioned attitudes of work and work-life** or concerns on diversity are **dying out**.

Leadership:

"I feel a **lack of professional leadership** and management in the high-ranked positions."

"No, I think a lot of **leadership sees how they were treated and think its okay**. It results in a selection bias and everyone not willing to be treated this way left the field"

Decision-making:

"[...] having **early-career representatives** (with an actual voice!) in **panels** and **decision making committees** should become standard!"

"The bright side":

"Yes."

"Somewhat yes"

"Not really by leadership, but generally by colleagues."

Q: Are there particular views or changes to the way the field works that you would like to advocate?

"**Quality of works** should not be compromised with the number of publications. [...]Refer[ee]ing a paper should be handled with more responsibility."

Scientific work:

More inclusion of **open science** -- make sure everything is **well documented** and open to the public/other science fields

"[...] there should be more acceptance for a **broader variety of research topics**"

Career aspects:

"There should be some **parity in recruiting** people for phd, postdoc, junior and senior positions in every institute"

Leadership and Decision-making:

People should not raise up in management due to their scientific success, but due to their **quality in management and leadership** or at least, they should be **required to receive training.**

We should develop a **mechanism to make decisions**. [...] Why should funding agencies fund a project if we cannot decide on what we want our projects to be.

Communication:

"**Outreach and teaching** work should be valued more in the community"

Other:

It would be nice if we could have one **convention** for labels, coding, etc. so that communication and collaboration could be clearer.

"The **issue of visibility of ECRs** in large collaboration should be permanently and more intensively worked on."

Q: Do you feel that the field has made a sufficient effort in ensuring a sustainable future? This could be with regards to the climate, energy or environmental concerns, or with regards to recruiting, training and retaining a diverse work force. What could we as a community do better?

Environmental sustainability:

Incorporate **sustainability considerations in the planning of future projects** from the get-go -- this is already being done to some extent for future electron-positron colliders, which is encouraging.

[...] researchers are still **travelling** a lot more than necessary

Sustainable working conditions:

“Very often **working over-time** is expected and somehow necessary for people to deliver enough publications and conference talks etc. This requires a **very flexible private situation** [...]”

“The diversity of the community is still defined a lot by how (in)tolerant people are in **hiring processes** concerning "different" CVs [...] and also in the **organization of the work** itself.”

Diversity, Equality & Inclusion:

“You have to recruit people from **under-represented communities**. [...] “

[...] too many female colleagues say they do not think they can **stay in physics and have children** [...]

Q: Are there other comments (or concerns, etc.) you wish to raise regarding the future of the field?

“When are we building something? I'd like to build something and see data before I die. Thank you.”

“I find it difficult to imagine big colliders will be funded in the near future, given present societal challenges; the time-scale does not sound encouraging for people who are still building their careers”

Attempt at a Summary I

For a future collider project:

- Consensus: there is a strong physics case
  - Field-internal and external communication of the physics case and other project goals must be improved (“formulating a vision”)

- ECRs would be excited about a collider project that…
  - …is financially, environmentally and technologically feasible
  - …is on a time-scale that is relevant for their career
  - …has interesting technological challenges
  - …offers them a sustainable career perspective

Attempt at a Summary II

For future collaborative work:

- ECRS would like to see…
  - …empathic leadership with well-trained management skills
  - …transparent decision-making with more impactful participation of ECRs
  - …environmental sustainability included in decisions processes from the get-go
  - …more inclusivity, in particular adoption of a work ethics that fosters this
  - …more focus on good communication and documentation of work, honoring quality of work over quantity

For their future careers in particle physics:

- ECRS are worried about…
  - …long-term plannability of their career (lack of permanent positions, funding depletion)
  - …how to transition from running large scale projects to future projects without harming their careers

Q&A Questions I

Questions on the ECR career path

1. What are some areas where ECRs could have key contributions to help the FC community move forward?

2. What is the FC community doing/should be doing to support ECRs being more involved in studies for future colliders?

3. Is there a need to train more accelerator scientists for building colliders. Do we have enough jobs for them once they graduate?

Q&A Questions II

Questions on promoting future colliders inside/outside the particle physics community

1. What would be the "one and main" answer to convince the public for further investment in HEP and making larger and larger colliders?

2. On a scale of 1-10, with 10 being exemplary, how would you rate science communication within the "future of particle physics" community? If applicable, how can we improve?

Q&A Questions III

Questions on how to cope with the long long time scale of the future collider projects

1. As opposed to the multitude of collider options presented in the future plan (snowmass, European strategy etc.), should we aim to agree on a strategy to decide/prioritize on any of them? It looks hard for funding agencies to fund all of these projects if we seem to not be able to converge.

2. Is there any way to speed up the process of building the future colliders (e.g. muon collider, 100 TeV collider)? From the timeline it seems that the most of the early career researchers will be retiring at the time when the future colliders would provide any result.

3. In an even farther future prospective: are there ways to engage people to the project when the time scale of a project surpasses human lifetime?