
The ECFA Early-Career Researchers Panel

ECFA Plenary, EPS-HEP2023

Armin Ilg

On behalf of the
ECFA Early-Career Researchers Panel

ECFA

European Committee for Future Accelerators



2020 Update of the European Strategy for Particle Physics

Year-long process, [20 strategy statements](#).

Most important for us:

Particle physics, with its fundamental questions and technological innovations, attracts bright young minds. Their **education and training** are crucial for the needs of the field and of society at large. For **early-career researchers** to thrive, the particle physics community should place strong emphasis on their **supervision and training**. Additional measures should be taken in large collaborations to **increase the recognition of individuals developing and maintaining experiments, computing and software**. The particle physics community commits to placing the principles of **equality, diversity and inclusion** at the heart of all its activities.

Short history of ECFA ECR

The ECFA ECR panel was created as a follow-up to the [ECFA Early-Career Researchers input to the 2020 Update of the European Strategy for Particle Physics](#) (rather ad-hoc, not a panel)

*The objective of the [ECFA Early-Career Researchers \(ECR\) Panel](#) is for its members 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. An annual report of the ECFA ECR Panel is added as a standing item to the agenda of Plenary ECFA meetings.*

→ The ECFA ECR panel is tightly linked with the Update of the European Strategy → Actively working to make sure we're in the loop from the beginning

ECFA ECR Panel composition and activities

*Members are, in general, **PhD students and postdocs, either with a non-permanent contract or with up to eight years after obtaining the PhD.** Up to **three members** (+1 for countries with LDG lab), among them at least one PhD student and one postdoc, can be nominated **by each ECFA country** represented in ECFA for a **mandate of two years, extendable for another two years.** Nominations are to be endorsed by Plenary ECFA. Members act as individuals, but should be able to represent the views of early-career researchers in particle physics in the nominating country.*

- From PhD students to young assistant professors
 - Theoreticians, phenomenologists, experimentalists, ...
- Diversity in cultural background, career and research, trying to represent the whole community
- 3-4 panel meetings per year, handled by *Organization Committee (3 members)*
 - 5 ECR delegates in Plenary ECFA, 1 delegate in Restricted ECFA

Actual work is done in **working groups** that are flexible

Activities in 2021 and 2022

See [arXiv:2212.11238](https://arxiv.org/abs/2212.11238) for a complete summary!

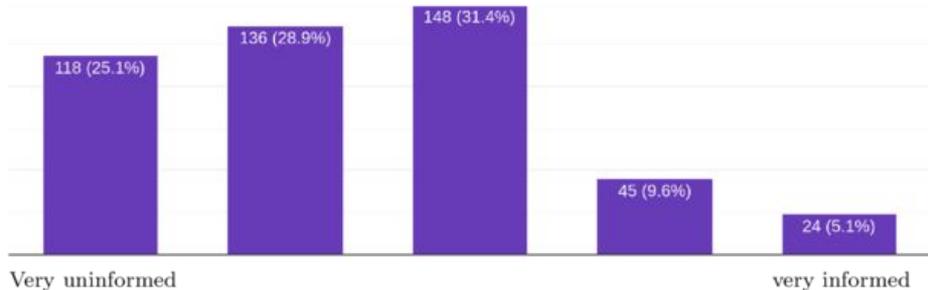
Detector R&D WG

Motivated by call for input to *Training in Instrumentation* symposium in ECFA Detector R&D Roadmap → Creation of working group

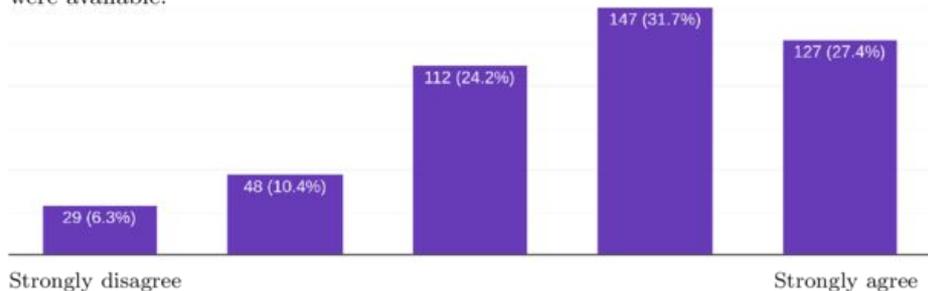
- Town hall meeting to gather what is important for ECRs in detector R&D
 - Survey about training in instrumentation, both to ECRs involved and not (yet) involved, total of 473 responses!
- [Training symposium input](#)
- Detailed report ([arXiv:2107.05739](https://arxiv.org/abs/2107.05739))
- Discussion with instrumentation community at *15th Pisa Meeting on Advanced Detectors* ([doi:10.1016/j.nima.2023.168022](https://doi.org/10.1016/j.nima.2023.168022))

Detector R&D WG: Some results

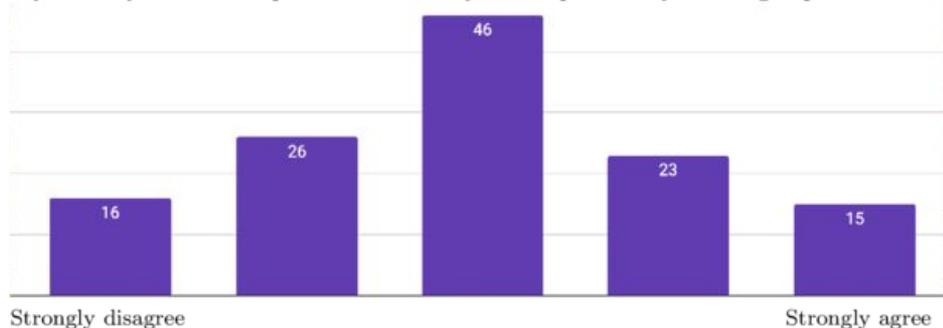
How informed do you feel about opportunities in instrumentation training?



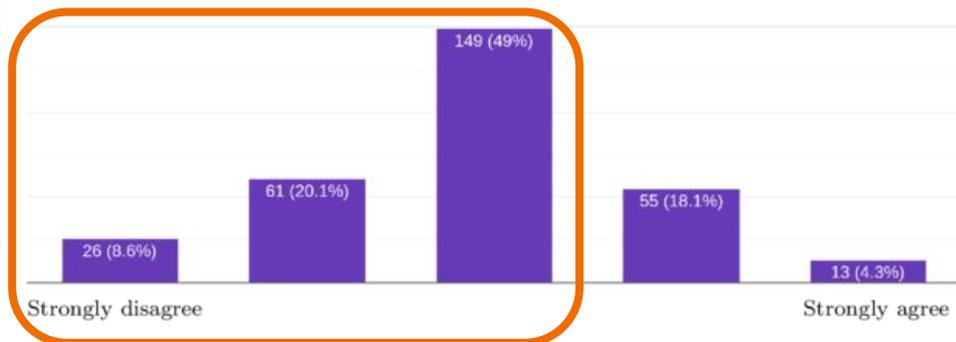
I would be more willing/eager to take on instrumentation work if more training were available.



My identity as under-represented minority has impacted my training experience



I am satisfied with networking opportunities for ECRs in instrumentation available to me



Let's create a WG to try to address this!

Networking in instrumentation WG

Event to foster discussion and networking among ECRs in instrumentation

→ Early-Career Instrumentation Forum

- Panel discussion + break-out rooms to discuss directly with panelists
- Topic: Careers in HEP instrumentation
- ~50 participants, on Zoom
- Hope to have future iterations focusing on different topics

Early-Career Instrumentation Forum

A panel discussion & networking event for early career researchers and engineers in instrumentation

Our Panelists



Erika Garutti
Univ. Hamburg



Susanne Kuehn
CERN



Niklaus Lehmann
DECTRIS Ltd

Organized by the ECFA
Early-Career Researcher Panel
Instrumentation Working Group



October 26th, 2022
15:00–17:00 CEST
Online:
<https://indi.to/ecinf>



Electron-ion colliders WG

- Goal of raising the awareness of the EIC project within the ECR community
- Active role in kick-off meeting [Synergies between the Electron-Ion Collider and the Large Hadron Collider](#) organised by JENAA

Community interactions

- Input to ECFA newsletters (you should [sign up for it!](#))
- Statement about response to war in Ukraine to PECFA, CERN Council secretariat and CERN Council Chair in view of June 2022 council meeting (not publicly released)

Career Prospects and Diversity in Physics Programme WGs

Designed a survey to collect information about...

- What is the impact of the collaboration size on ECRs? What is working and not working in large/small collaborations?
- Assess the career situations of ECRs, how can our panel help?
- What do ECRs think is needed for a successful career versus what is actually needed for a successful career?

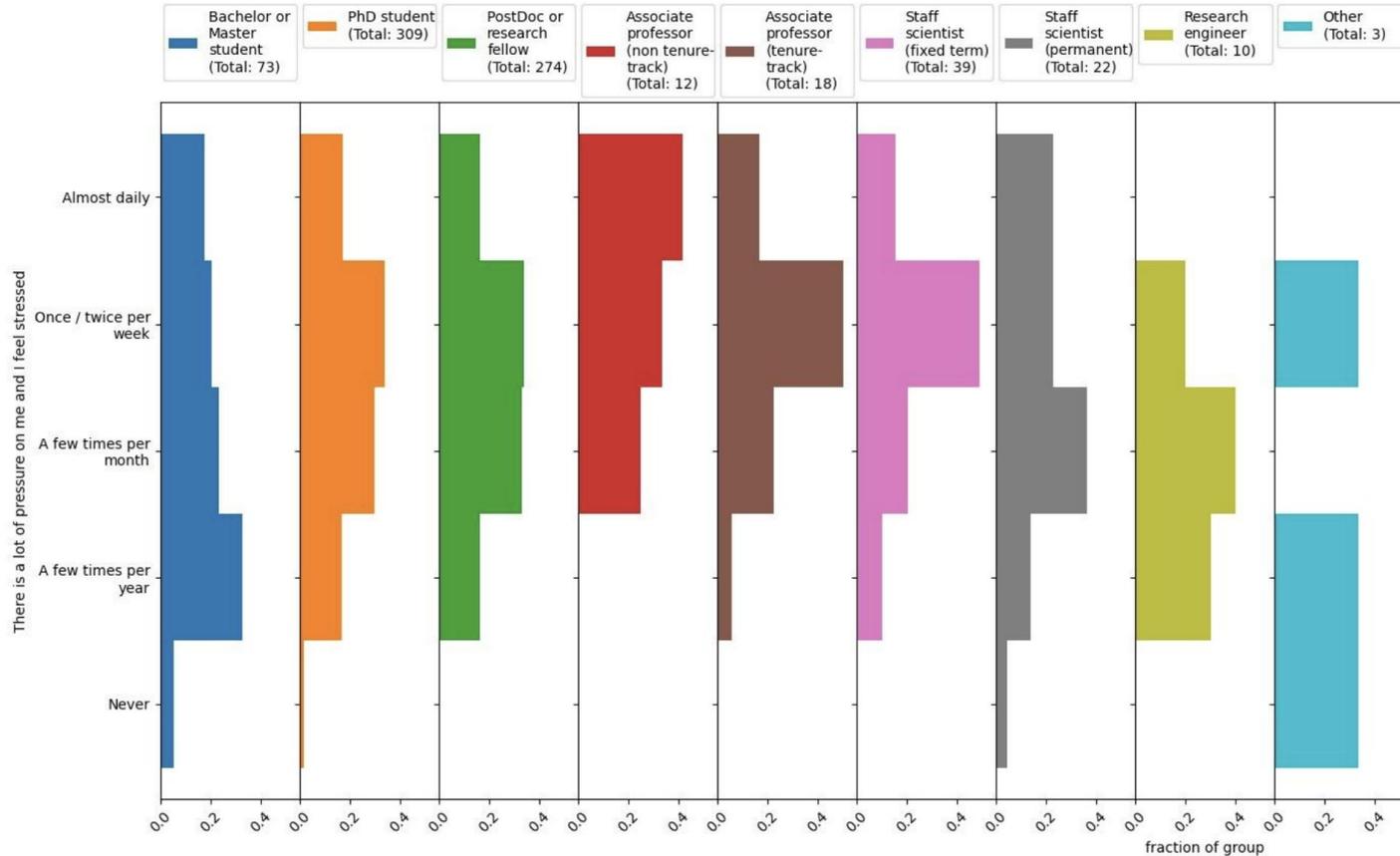
Circulated to ECR community (760 responses!) and also to ECFA national contacts (shorter version)

Structure of the survey

- Personal data
- Field of work
- Collaboration and working group
- Diversity of Physics
- Career perspective and planning
- Work-life balance
- Leaving academia
- Recognition and visibility
- Final questions, feedback and remarks

[Survey status update](#) (K. Jarkovská, O. Lelek, H. Pacey)

Career Prospects and Diversity in Physics Programme WGs: First result



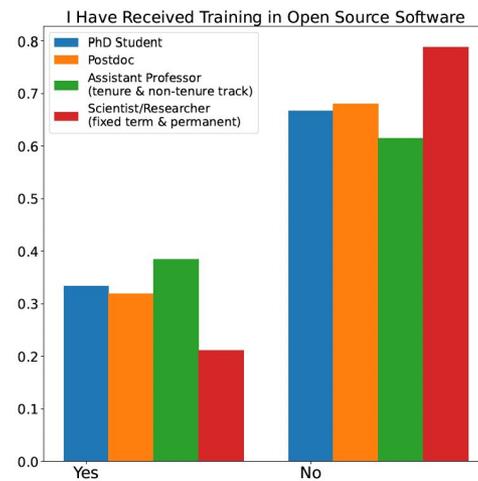
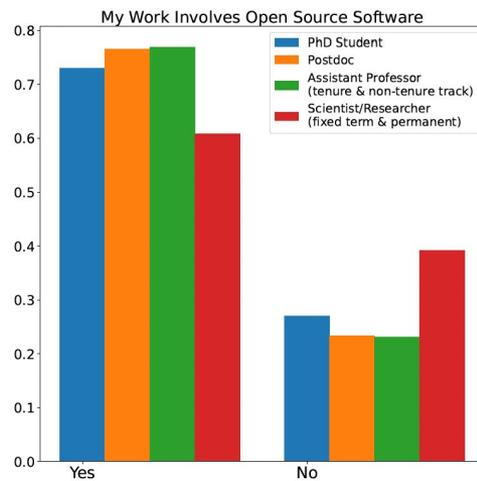
→ Compile and release report similar to the other survey

New activities in 2023 -

First large overhaul of members (end of first two year term)

Software/ML applications for future colliders WG

- Open source software is used everywhere, but many haven't received the needed training
- First WG meeting held, investigating ways on how to help ECRs



Training in instrumentation survey [arXiv:2107.05739](https://arxiv.org/abs/2107.05739)

Future colliders WG

Goal: Inform ECRs about future collider options and development, enabling them to shape their own vision on future colliders

Planning a one-day hybrid meeting at CERN for ECRs:

→ ***Future colliders for early-career researchers***

Short presentations on prospects, lots of time for discussions

- Can serve as reference information for ECRs about future colliders

Takes place **September 27th at CERN and online**, [register now!](#)

Future colliders for early-career researchers

- Central talks with lots of time for discussion
- Coffee breaks and lunch*
- Poster session where ECRs can showcase their work on future colliders (many ECRs already involved!)
 - **Submit your abstract [here!](#)**

*: Sponsored by CERN, thanks!

| | | | |
|-------|---|-------|--|
| 09:00 | Welcome to the event 222/R-001, CERN | 14:00 | Theory perspective 222/R-001, CERN |
| | ECFA Vision 222/R-001, CERN | | View point of low-energy physics 222/R-001, CERN |
| | Physics landscape/general considerations: Theory and Experimental 222/R-001, CERN | | Cosmic/astro 222/R-001, CERN |
| 10:00 | Comparison between different FCs 222/R-001, CERN | 15:00 | Beam dump experiments 222/R-001, CERN |
| | Sustainability of FCs 222/R-001, CERN | | Heavy ion (link to EIC) 222/R-001, CERN |
| | Coffee 222/R-001, CERN | | Coffee 222/R-001, CERN |
| 11:00 | Input from accelerator physicists 222/R-001, CERN | 16:00 | Discussion on time scale impact on ECRs 222/R-001, CERN |
| | Detector technologies and challenges 222/R-001, CERN | | European/CERN funding Landscape & Lessons learned from the LHC 222/R-001, CERN |
| 12:00 | Theory challenges: Precision calculations 222/R-001, CERN | 17:00 | Socio-Economic Impact 222/R-001, CERN |
| | Software tools for future colliders 222/R-001, CERN | | Conclusions and closing remarks 222/R-001, CERN |
| 13:00 | Lunch including poster session 222/R-001, CERN | 18:00 | |

From ECFA to the national communities

Follow-up the ECFA-wide event with national, in-person events on future colliders, directing discussions into the ECFA countries

Some issues, especially related to *Money and People* are country dependent

- National events after community wide event
 - Small countries could consider combining to relieve some of the organisational load
- A lot to be organised still!

Concluding words

Young panel with young people

- Panel has self-organised and is active with several working groups
- Just had our first large member renewal

Keep in touch with us

- [Our webpage](#) to find your country ECR representative
- ecfa-ecr-organisers@cern.ch
- [Subscribe](#) to ecfa-ecr-announcements e-group to get notified about our activities!



Future Colliders for ECRs [event](#)

Consider joining us when a panel slot becomes free in your country!

Thanks!



European Physical Society
Conference on High Energy Physics
21-25 August 2023

