
ECFA ECR

Diana Krupová

on behalf of the ECFA ECR CZ representatives

Czech Technical University in Prague
Faculty of Nuclear Sciences and Physical Engineering

7. miniworkshop difrakce a ultraperiferních srážek

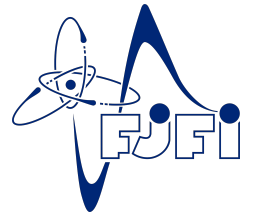
September 18, 2024

Děčín, Czech Republic



ECFA

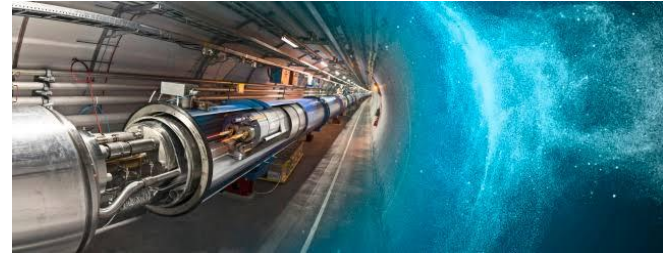
European Committee for Future Accelerators





- European Committee for Future Accelerators (ECFA)

- Long-range planning for high-energy facilities in Europe ensuring robust research program
- Strong emphasis on international collaboration
- Has advisory status to CERN



- **Activities**

- Organise meetings, conferences, symposia...
- Form study groups, perform demographic studies of the High Energy Physics (HEP) community and resources
- Monitor implementation of the European Strategy for Particle Physics
 - Cornerstone of Europe's decision-making process for the long-term future of the field





● Structure

- Plenary ECFA (PECFA) - “Parlament”
 - Votes on all final decisions
- Restricted ECFA (RECFA) - “Government”
 - One member per participating country
 - Assists and advises the Chairperson and the Secretary
- Chairperson and Secretary
 - Responsible for the day-to-day running of ECFA
- Permanent or ad hoc working groups
 - Working on specific tasks

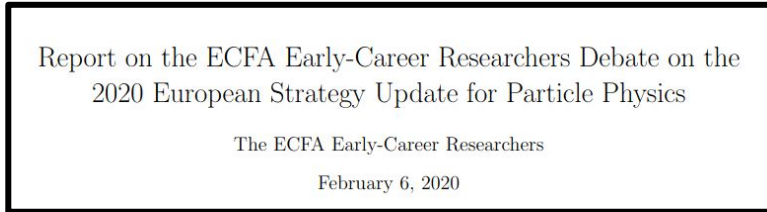
● Current Czech Republic ECFA representatives:

- Jana Bielčíková (RECFA), Zdeněk Hubáček, Jaroslav Zálešák



- Dec. 2019 ECFA organized [discussion of Early-Career Researchers](#) (ECRs) about [2020 Update of the European Strategy for Particle Physics](#)

- Full day debate at CERN - 180 delegates
- Successful event - [output report](#) taken into account for the strategy update

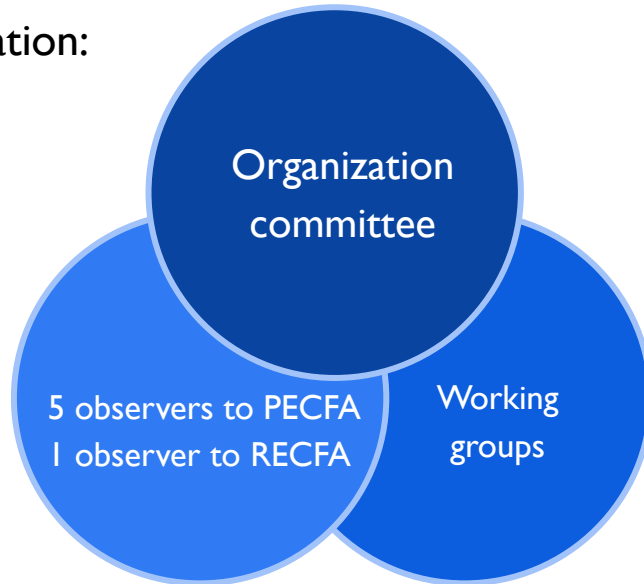


Students and postdocs with non-permanent contract or up to 8 years after obtaining their PhD

- 2020 - ECFA created permanent [Early-Career Researcher](#) (ECR) Panel
 - To discuss all aspects that contribute in a broad sense to the future of the research field of particle physics
 - It has an advisory role to ECFA



- Officially formed in January 2021 (endorsed November 2020)
 - Immediately joins the “[#RescueHorizonEurope](#)” campaign
 - Fighting EU’s cuts to the financing of basic and frontier research
- 2 year mandate (extendable once), at least 3 meetings per year
 - 2021-2022: 75 members representing 27 ECFA countries + CERN
- Organization:



ecfa-ecr-organisers@cern.ch

“Members act as individuals, but should be able to represent the views of early-career researchers in particle physics in the country from which they were nominated.”

ecfa-ecr-announcements@cern.ch



- Current panel [composition](#)
- Summary of activities in 2021-2022
 - Available on [arXiv](#)

The ECFA Early Career Researcher's Panel:
composition, structure, and activities, 2021 – 2022

The ECFA Early Career Researcher's (ECR) Panel

December 22, 2022



A selection of pictures of ECFA Early Career Researcher panel members

- **Detector R&D** - organised symposia “Training in Instrumentation” + [Survey](#)
 - Reported on [ECFA Detector R&D Roadmap Symposium](#)
- **Networking in Instrumentation**
 - The Early-Career Instrumentation Forum: [Panel discussion and networking event](#)
 - Early Career instrumentation resources - [Collection of Schools](#)
- **Career Prospects and Diversity in Physics Programme**
 - Joint groups [survey](#)
- **Electron-Ion Colliders**
 - [JENAA](#): “[Synergies between the EIC and the LHC](#)” event




- **Software+ML for Instrumentation**
- **Future Colliders**

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>





- Current Czech representatives in the ECFA ECR panel



Kamil Augsten

2021-2024

Czech Technical University in Prague
Faculty of Nuclear Sciences and Physical
Engineering



Pavel Váňa

2024-2025

Charles University
Faculty of Mathematics and Physics



Diana Krupová

2024-2025

Czech Technical University in Prague
Faculty of Nuclear Sciences and Physical
Engineering

2021-2022 Katarína Křížková Gajdošová

2021-2024 Kateřina Jarkovská

2023-2024 Tomáš Herman





- Mainly in **Career Prospects and Diversity in Physics Programme WG** and **Electron-Ion Colliders WG**

- Survey Career/Diversity - creation (Katka, Kamil), analysis (Katka)

- [RECFA visit to Czech Republic](#) - 31. 3. 2023

- Presentation of CZ ECR view - based on the [survey](#)

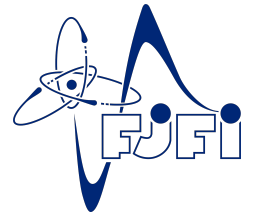
| | | |
|-------|---|---|
| 09:00 | Welcome (Rectors of CLUJCTU, Czech Academy of Sciences) | 09:00 - 09:15 |
| | Funding Science and R&D in Czech Republic | Lukáš Levák 09:15 - 09:35 |
| | Introduction to HEP in Czech Republic | Alexander Kupco 09:35 - 09:55 |
| 10:00 | HEP Experiments (ATLAS, including ATLAS-H) | Tomas Dvasek 09:55 - 10:25 |
| | Coffee/Tea break | 10:25 - 10:55 |
| 11:00 | HEP Experiments (Belle, NA62, Compass) | Radek Zhebock 10:55 - 11:15 |
| | Heavy Ion Experiments (ALICE) | Filip Kopeck 11:15 - 11:35 |
| | Heavy Ion Experiments (RHIC, FAIR, EIC) | Jaroslav Benčík 11:35 - 11:55 |
| 12:00 | Neutrino Experiments | Jaroslav Zhebock 11:55 - 12:15 |
| | Astroparticle Physics Experiments | Martina Bohacova 12:15 - 12:35 |
| | Lunch | 12:35 - 13:35 |
| | R&D of Detectors and Accelerators | Marcela Mikesikova et al. 13:35 - 14:00 |
| 14:00 | Computing | Petr Vokac 14:00 - 14:20 |
| | Theory (HEP, Cosmology ...) | Constantinos Skordis 14:20 - 14:40 |
| | Nuclear Physics (Experiments and Theory) | Anna Mackova 14:40 - 15:00 |
| 15:00 | Coffee/Tea break | 15:00 - 15:30 |
| | Education | Jiri Kuita 15:30 - 15:50 |
| | Outreach | Vojtech Pleskol 15:50 - 16:10 |
| 16:00 | Perspective of Young Scientists | Katerina Jarkovska 16:10 - 16:30 |
| | RECFA closed session | |
| 17:00 | First Impressions from RECFA | 16:30 - 17:30 |
| | | 17:30 - 18:00 |

Survey Results



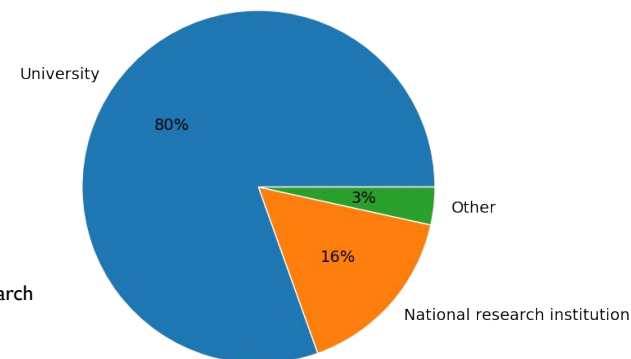
ECFA

European Committee for Future Accelerators



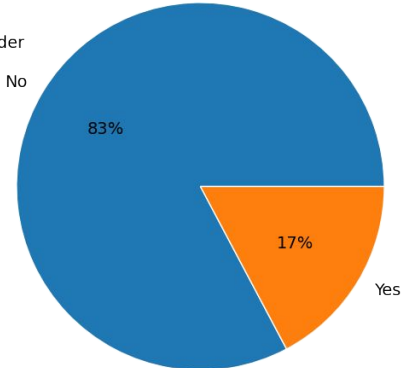
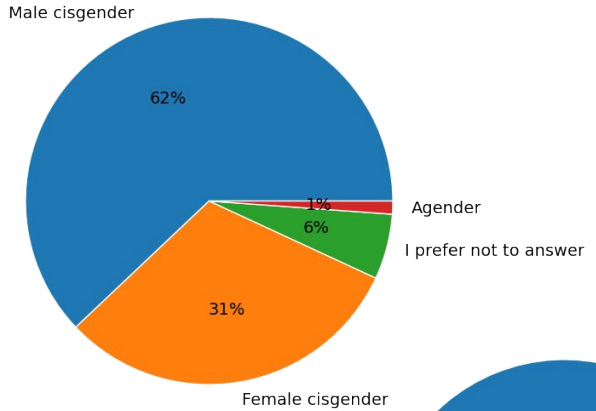
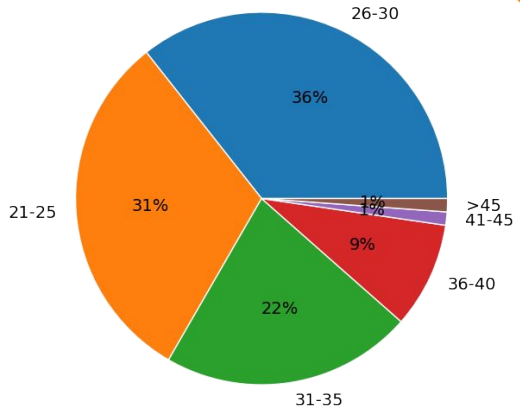
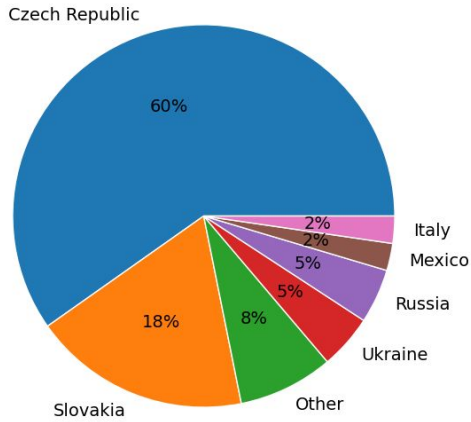


- Presentation based on a anonymous survey distributed in February - originally developed in the ECR panel of ECFA
 - unique opportunity to compare Czech Republic results for all ECFA ECRs
- 87 participants residing in Czech Republic
 - we asked all ECR in HEP and related fields, ECR defined same as in ECFA (students + researchers up to 8 years after obtaining Ph.D.)
- CZ HEP research mostly at universities and research institutions



Other: Combined University and National research institution, National research institution and University, International laboratory

- Nationality, gender, age, kids
 - Majority of Czechs and Slovaks
 - Male:female 2:1, unfortunately (it is same in All)

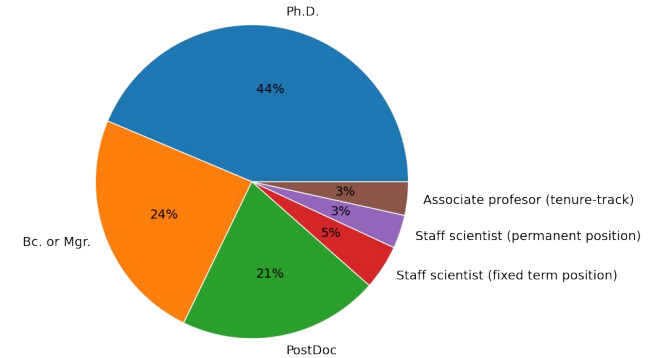
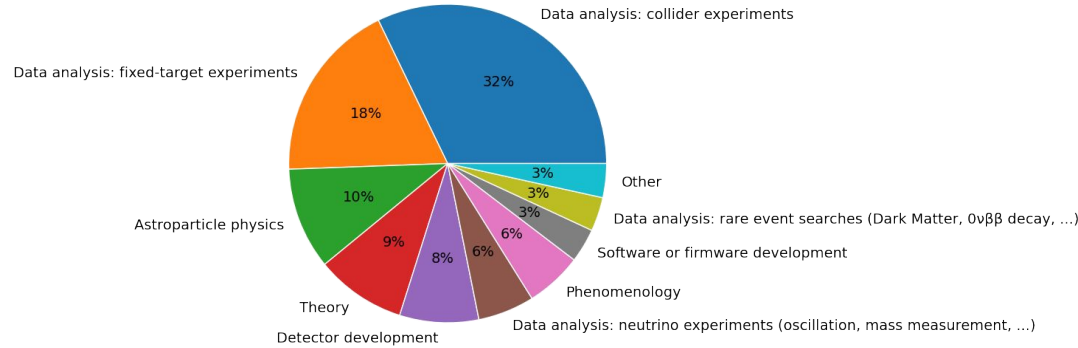


What is your nationality?
Other: Belarus ,Chile, India, Kazakhstan, Pakistan, Portugal, Zambia

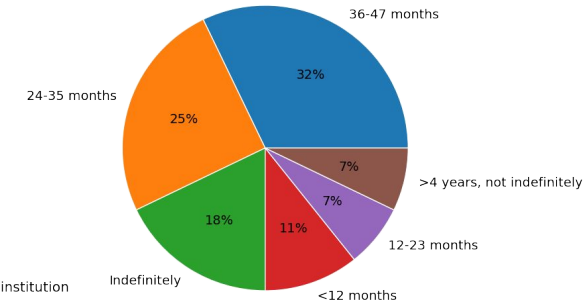
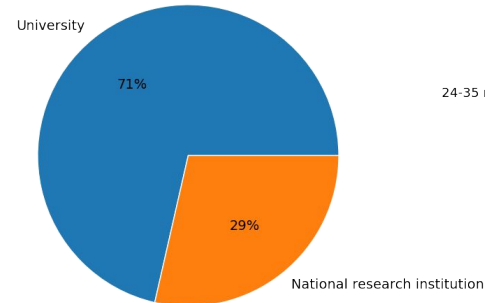
| During which career phase(s) did you have a child (children)? | |
|--|---|
| During the PhD | 5 |
| As a PostDoc | 5 |
| During the PhD;As a staff scientist or researcher (permanent) | 1 |
| the PhD;As a PostDoc;As a staff scientist or researcher (fixed-term) | 1 |
| As a staff scientist or researcher (permanent) | 1 |
| During the PhD;As a PostDoc | 1 |
| As a PostDoc;As a research fellow | 1 |



- Survey responses from students, postdocs and staff scientists
- Main research areas:

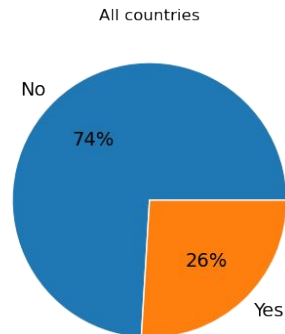
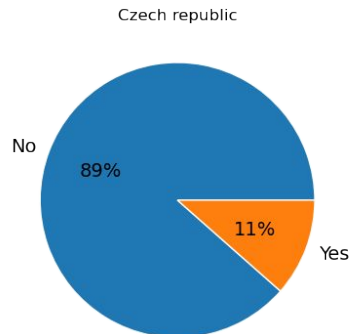


- Young researchers (excluding students) usually at University with contracts mostly < 3 years (43%), <4 years (75%)





- Do you identify yourself as belonging to an underrepresented group within the physics community?

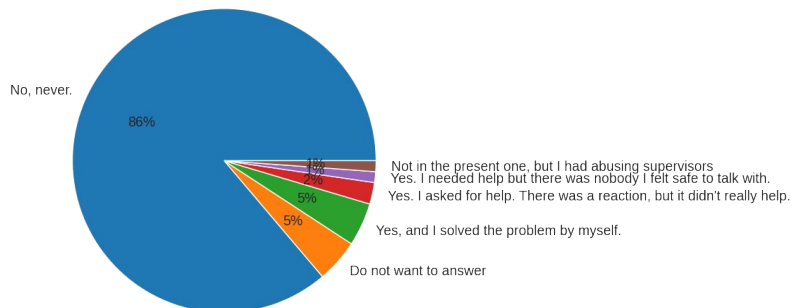


Under which criterion do you identify as under-represented?

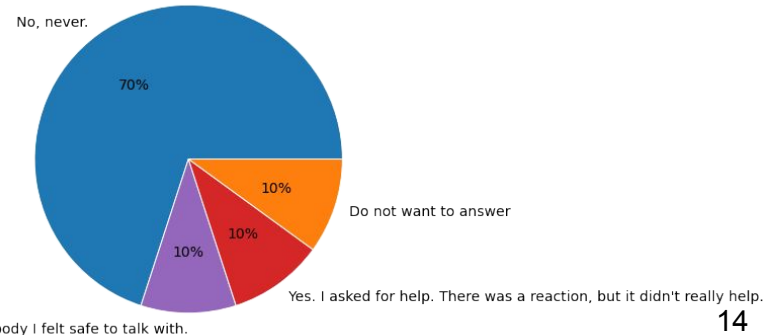
| | |
|--------------------------------------|---|
| Ethnicity | 3 |
| Gender | 3 |
| Sexual orientation | 2 |
| Gender;Sexual orientation;Disability | 1 |
| a very specialized field | 1 |

- Have you experienced discriminatory or abusive treatment in your collaboration/group?

Czech republic

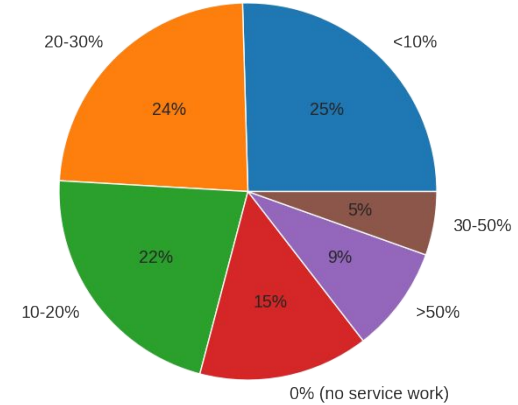


For the ones who identify underrepresented:

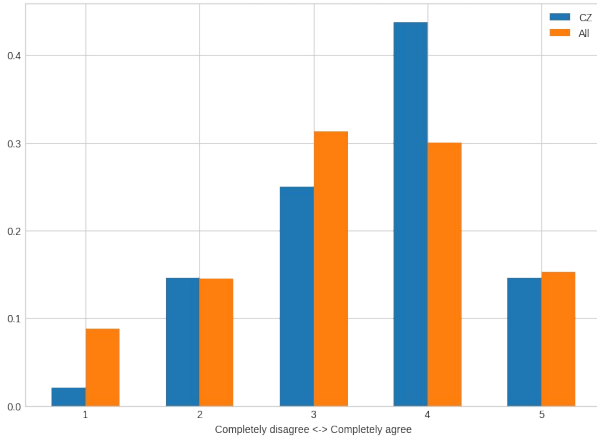




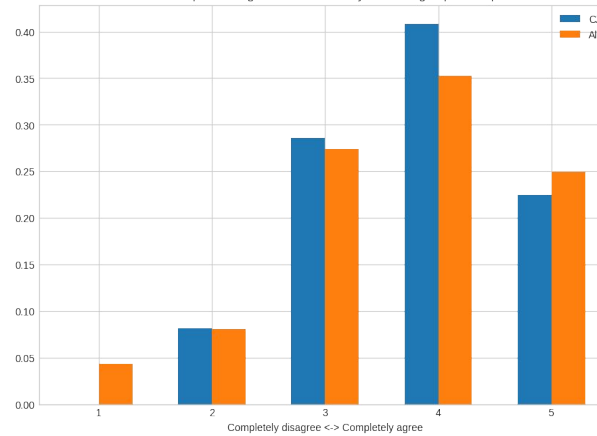
- Service work - well accepted sharing of time
 - ~40% spend >20% time doing service work
 - Brings new expertise and visibility



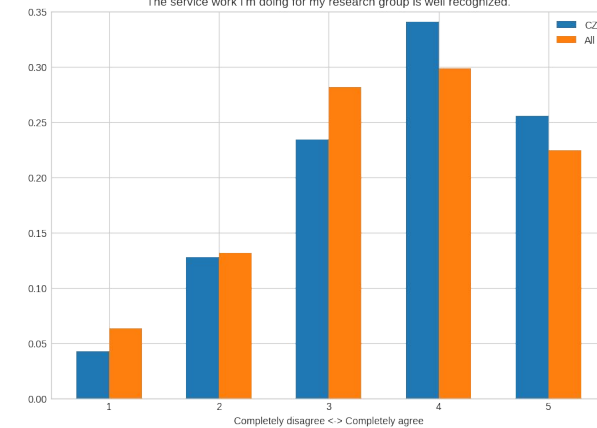
The service work I'm doing for my research group is useful for my career.



The time I spend doing service work for my research group is adequate.



The service work I'm doing for my research group is well recognized.

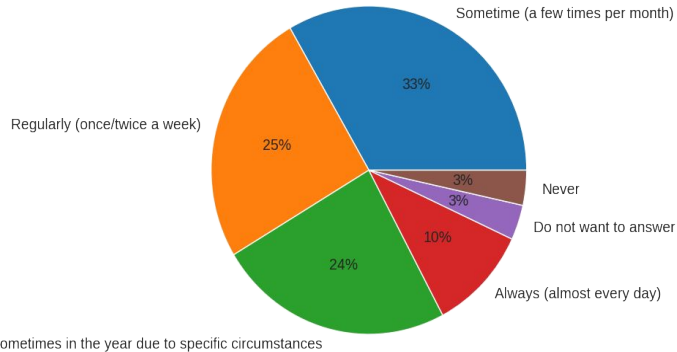




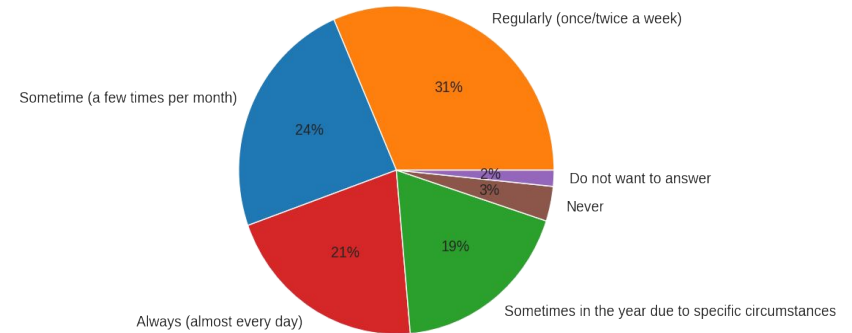
- Working overtime - looks like global issue with >50% working overtime always or regularly
 - Slightly better in Czech Republic (~35%), but still only 3% feels they don't never need to work overtime

I work overtime (not compensating by working less other times):

Czech republic



All

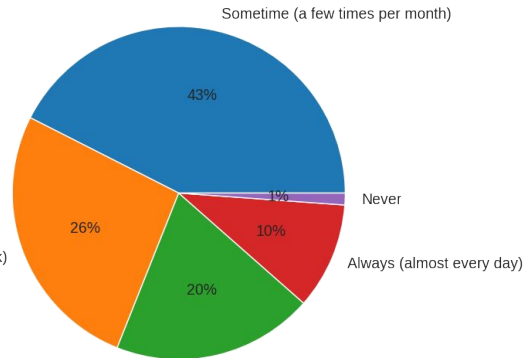




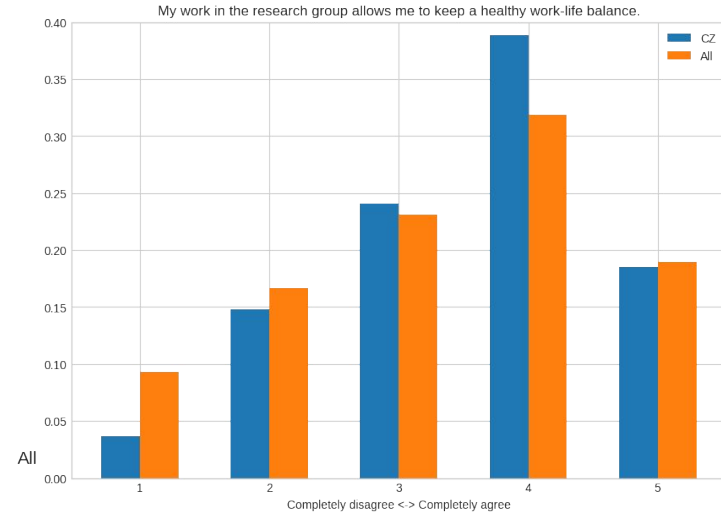
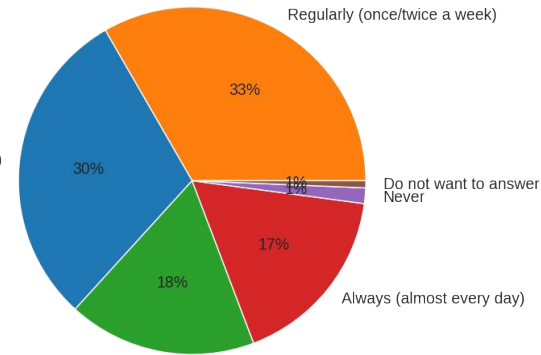
- **Feeling stressed and under pressure**
 - Similar answers to overtime
 - Despite that mostly positive (or neutral) opinion about healthy work-life balance in research groups

There is a lot of pressure on me and I feel stressed

Czech republic

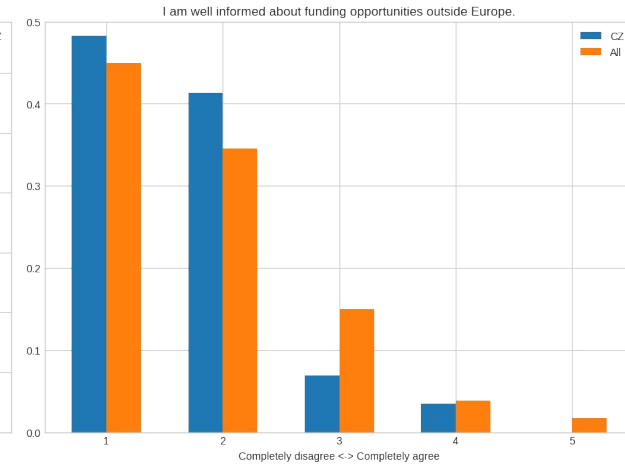
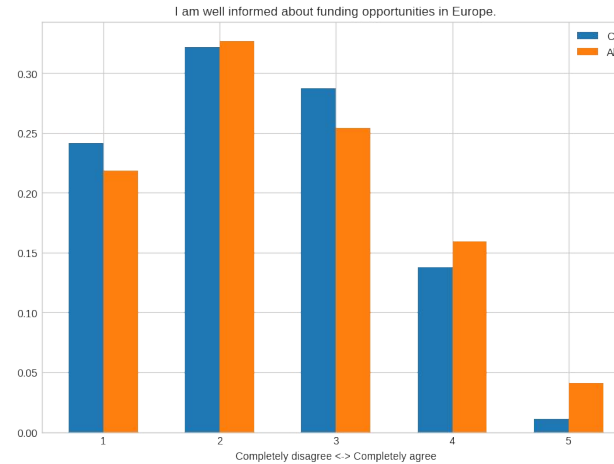
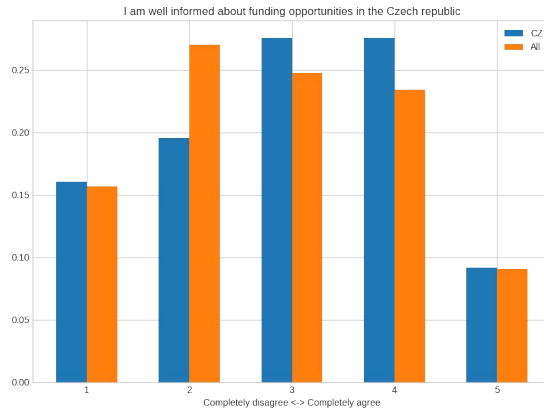


Sometime (a few times per month)



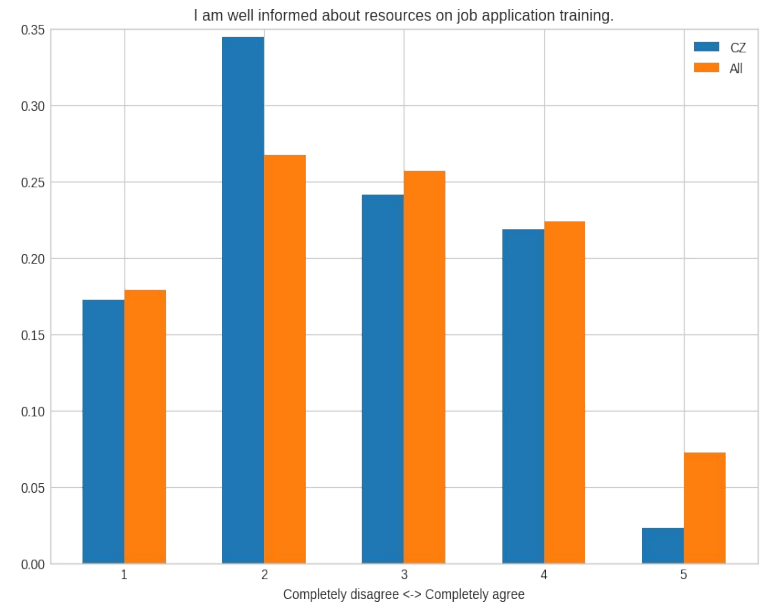
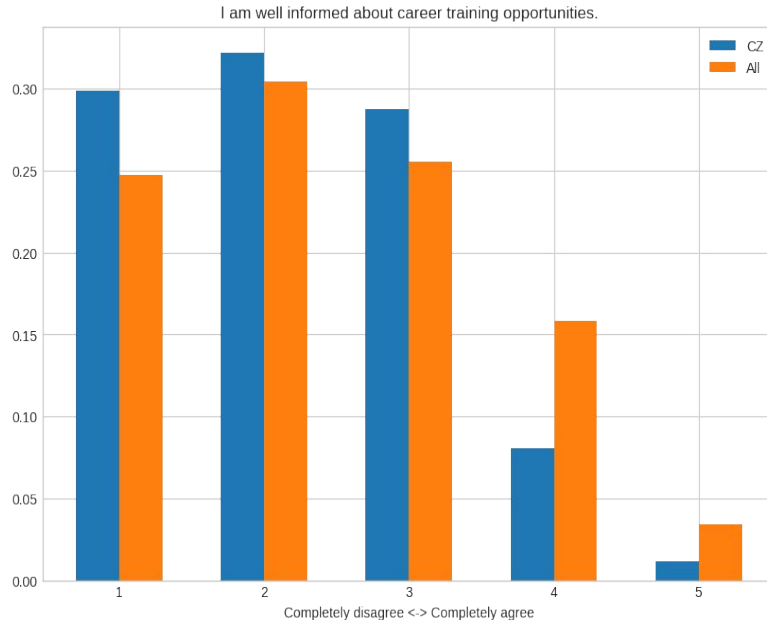


- Knowledge of funding in CZ (ok), in Europe (bad), outside Europe (very bad)



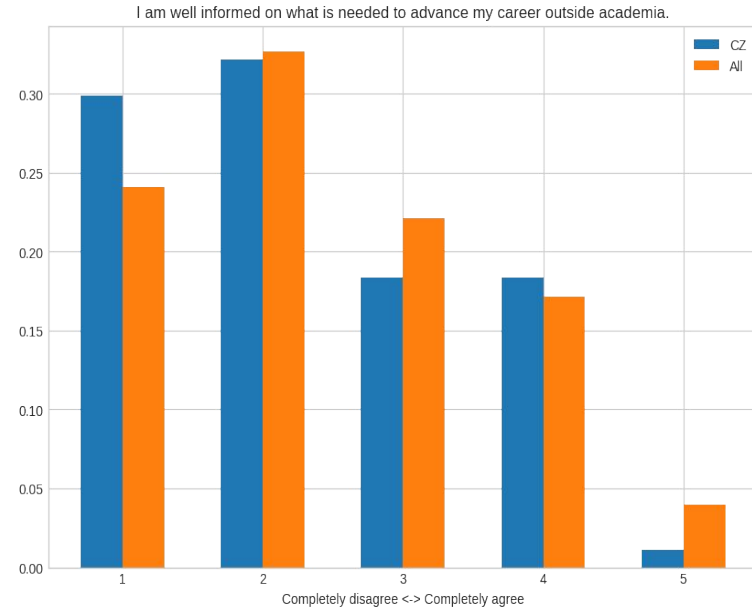
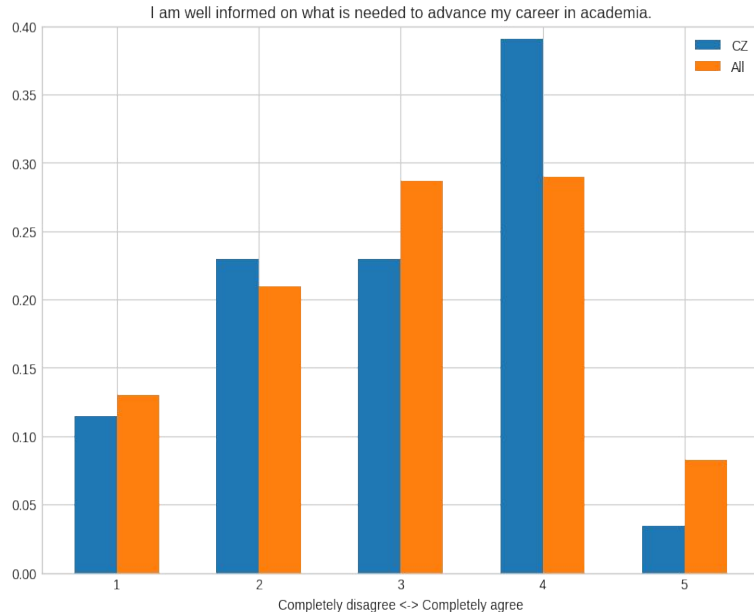


- Knowledge of funding in CZ (ok), in Europe (bad), outside Europe (very bad)
- Not enough information about career and job application training





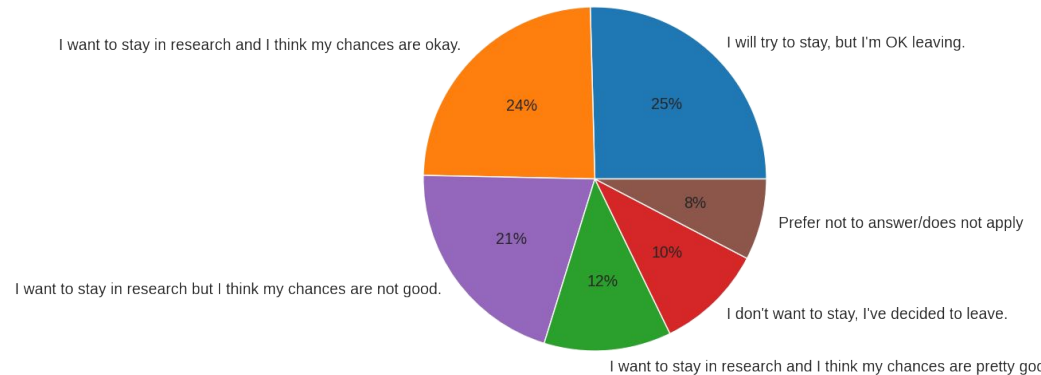
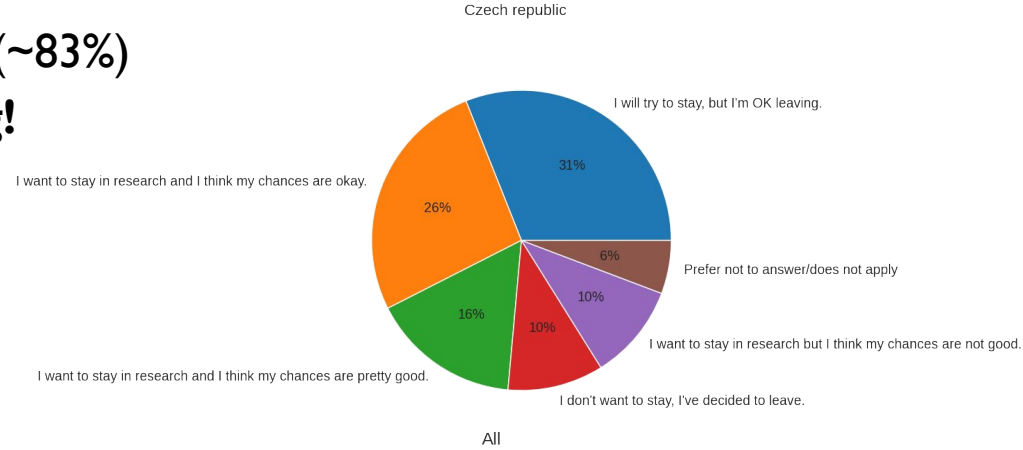
- Knowledge of funding in CZ (ok), in Europe (bad), outside Europe (very bad)
- Not enough information about career and job application training
- Decent awareness about career in academia but less information about outside






- Most people prefer to stay in academia (~83%)
- **But the largest group is OK leaving!**


| | reason | count |
|--|---|-------|
| | Money | 30 |
| | Work-life balance | 20 |
| | Family | 19 |
| | I've lost interest in research | 12 |
| | Missing the possibility of long-term planning | 9 |
| | Workplace environment | 6 |
| | Interesting opportunities outside research | 5 |
| | Moving back to my home country | 2 |







● Work environment

 ECRs satisfied with their working-group environment

 ~40% spend >20% time doing service work, viewed as valuable experience


 ~11% Czech ECRs (~26% all ECRs!) identify as an underrepresented group, mostly by ethnicity, gender or sexual orientation


 ~9% Czech ECRs (~21% all ECRs!) experienced some discriminatory or abusive treatment

 ~35% Czech ECRs (~50% all ECRs!) work overtime always or regularly


 ~35% Czech ECRs (~50% all ECRs!) feel stressed under pressure always or regularly


● Work-life balance


 work flexibility is important and accessible


 tension in income and long-term planning


● Career prospects


 good knowledge of funding in the Czech republic

 worse/bad knowledge of funding opportunities outside the Czech republic

 good awareness of career in academia

 worse/bad awareness of career outside academia

 ~80% Czech ECRs (~80% all ECRs) want to/try to stay in academia, ~40% think they have at least OK chances

 insufficient career and job application training

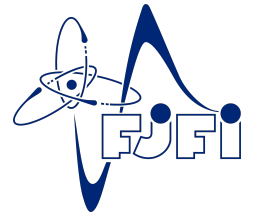
 ~40% Czech ECRs (~35% all ECRs) want to leave or are OK with leaving

Events and Plans



ECFA

European Committee for Future Accelerators





- 30 May: Meeting of ECRs in HEP in the Czech Republic
 - **Career in Academia and Industry**
 - **Funding of science in CZ/EU/USA**
 - Report from the RECFA visit to CZ
 - List of career training resources available at CTU/CU...
- **Recording of the event available on Indico page**

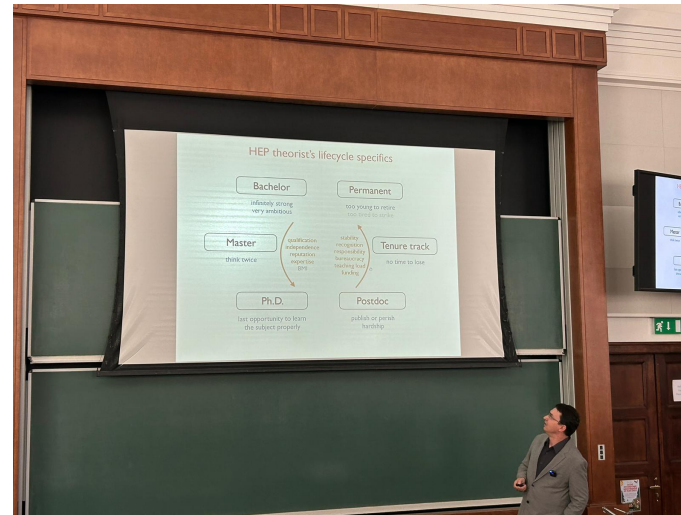
ECFA PRESENTS

MEETING OF EARLY CAREER RESEARCHERS IN HIGH ENERGY PHYSICS IN THE CZECH REPUBLIC

30 MAY 2023
Břehová 7, Prague

Registration and more details
indico.cern.ch/e/ECR-CZ

• Funding in HEP
• Career in academia
• Career in industry
• ECFA ECR



| | |
|---|---------------------------|
| Welcome | Mr Kamil Augsten et al. |
| B-103, Prague, Břehova 78/7 | 10:00 - 10:10 |
| ECFA ECR | Mr Kamil Augsten |
| B-103, Prague, Břehova 78/7 | 10:10 - 10:25 |
| ECR Survey Results | Katerina Jarkovska |
| B-103, Prague, Břehova 78/7 | 10:25 - 10:40 |
| Discussion | |
| B-103, Prague, Břehova 78/7 | 10:40 - 10:50 |
| Coffee break | |
| B-103, Prague, Břehova 78/7 | 10:50 - 11:00 |
| Career in Academia | Dr Michal Malinsky |
| B-103, Prague, Břehova 78/7 | 11:00 - 11:15 |
| Work Life Balance in Academia | Karolina Lavickova et al. |
| B-103, Prague, Břehova 78/7 | 11:15 - 11:30 |
| Discussion | |
| B-103, Prague, Břehova 78/7 | 11:30 - 11:35 |
| Career outside Academia - ADVACAM | Jan Sohr et al. |
| B-103, Prague, Břehova 78/7 | 11:35 - 11:55 |
| Career Outside Academia - Proton (Mail) | Jan Veverka |
| B-103, Prague, Břehova 78/7 | 11:55 - 12:15 |
| Discussion | |
| B-103, Prague, Břehova 78/7 | 12:15 - 12:45 |
| Lunch | |
| B-103, Prague, Břehova 78/7 | 12:45 - 14:00 |
| RECFA Report to MEYS | Jana Bieleckova |
| B-103, Prague, Břehova 78/7 | 14:00 - 14:10 |
| Science and R&D Funding in Czech Republic | Alice Valkarova |
| B-103, Prague, Břehova 78/7 | 14:10 - 14:25 |
| Grants in EU | Domrika Vyšejňová |
| B-103, Prague, Břehova 78/7 | 14:25 - 14:40 |
| Grants outside EU | Jaroslav Adam |
| B-103, Prague, Břehova 78/7 | 14:40 - 14:55 |
| Discussion | |
| B-103, Prague, Břehova 78/7 | 14:55 - 15:30 |
| Coffee break | |
| B-103, Prague, Břehova 78/7 | 15:30 - 15:45 |
| Career Training Resources | Tomás Herman |
| B-103, Prague, Břehova 78/7 | 15:45 - 15:55 |
| What's next: Web, Alumni, Events... | Mr Kamil Augsten et al. |
| B-103, Prague, Břehova 78/7 | 15:55 - 16:10 |

- 27 September: [Future Colliders for Early-Career Researchers: CZ/SK Edition](#)
 - **Overview of future colliders (FCC, CEPC, ILC, CLIC)**
 - **Physics motivation: why do we need Higgs factory**
 - Detector concepts for FCC-ee
 - Electron source for FCC-ee, ...
- **You are welcome to join (in person)!**
 - MFF Troja, posluchárna T I

Similar one-day event held in September last year at CERN, the summary is now available

Early-career researchers perspective on future colliders

The ECFA Early Career Researcher's (ECR) Panel

June 25, 2024

Since its inception, the Large Hadron Collider (LHC) has significantly advanced particle physics and will continue to do so in the context of the High Luminosity LHC (HL-LHC) program to collect 3000 fb^{-1} by the end of 2041. The particle physics community worldwide is discussing which future collider could follow in the footsteps of the LHC and uncover yet inaccessible secrets.

To foster the discussion on this important topic among the young particle physicist community, the Early-Career Researchers (ECR) panel of the European Committee for Future Colliders (ECFA) has organized the *Future Colliders for Early-Career Researchers* workshop at CERN in September 2023. This document aims to summarise this event and present the ECR perspective, outline the key questions that came up during the discussions, and explore how ECRs can influence the decision process of future colliders community and beyond.

The poster features the ECFA logo at the top left. The main title 'FUTURE COLLIDERS' is in large blue letters, followed by 'FOR EARLY-CAREER RESEARCHERS' and 'CZ/SK EDITION'. The date and location are 'FRIDAY 27/09/2024' and 'T1, MFF TROJA, PRAGUE'. A QR code is provided for registration, with the URL indico.cern.ch/e/future-colliders-prague. The phrase 'ALL STUDENTS ARE WELCOME!' is written in blue around a central 3D rendering of a particle collider. The bottom corners feature several circular diagrams of different collider designs.



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June 25, 2024

Since its inception, the Large Hadron Collider (LHC) has significantly advanced particle physics and will continue to do so in the context of the High Luminosity LHC (HL-LHC) program to collect 3000 fb^{-1} by the end of 2041. The particle physics community worldwide is discussing which future collider could follow in the footsteps of the LHC and uncover yet inaccessible secrets.

To foster the discussion on this important topic among the young particle physicist community, the Early-Career Researchers (ECR) panel of the European Committee for Future Colliders (ECFA) has organized the *Future Colliders for Early-Career Researchers* workshop at CERN in September 2023. This document aims to summarise this event and present the ECR perspective, outline the key questions that came up during the discussions, and explore how ECRs can influence the decision process of future colliders community and beyond.

| Czech & Slovak contribution to the Future colliders | |
|---|--|
| Hands-on workshop | |
| Overview talks | |
| Welcome | |
| 09:00 | Registration |
| | Posluchárna T1, MFF UK Troja 09:00 - 09:30 |
| | Welcome from ECR panel and ECFA |
| | Posluchárna T1, MFF UK Troja 09:30 - 09:40 |
| | Overview of future colliders (FCC, CEPS, ILC, CLIC) Jana Faltova |
| 10:00 | Posluchárna T1, MFF UK Troja 09:40 - 10:20 |
| | Physics motivation: why do we need Higgs factory Matej Havrnek |
| | Posluchárna T1, MFF UK Troja 10:20 - 10:50 |
| | Coffee break |
| 11:00 | Posluchárna T1, MFF UK Troja 10:50 - 11:10 |
| | Detector concepts for FCC-ee Filomena Sopkova |
| | Posluchárna T1, MFF UK Troja 11:10 - 11:40 |
| | Electron Source Development for FCC-ee: Exploring the Pre-Accelerator Complex and Refilling Scheme Zdenek Vostrel |
| 12:00 | Posluchárna T1, MFF UK Troja 11:40 - 12:10 |
| | Physics software tools for FCC Juraj Smiesko |
| | Posluchárna T1, MFF UK Troja 12:10 - 12:40 |
| | Lunch break |
| 13:00 | |
| | Posluchárna T1, MFF UK Troja 12:40 - 13:40 |
| | Hands-on workshop: FCC physics software Juraj Smiesko |
| 14:00 | |
| 15:00 | Posluchárna T1, MFF UK Troja 13:40 - 15:10 |



- available on [arXiv](#)
- outcomes reflect the concerns and aspirations of the ECR community regarding future particle collider projects
 - **Need for a new collider**
 - Importance of advancing beyond the LHC to explore new physics beyond the SM and probe unanswered questions (dark matter and neutrino oscillations)
 - Several proposed collider projects discussed (FCC-ee, Muon Collider, ILC, and CLIC)
 - FCC-ee as a focus for high precision in studying Higgs, EW physics, flavor anomalies, BSM physics
 - **Theoretical and computational challenges**
 - Emphasis on the need for improved precision calculations, theoretical inputs, and computational infrastructure to support future colliders



- available on [arXiv](#)
- outcomes reflect the concerns and aspirations of the ECR community regarding future particle collider projects
 - **Sustainability and socio-economic impact**
 - Detailed assessment of the socio-economic and sustainability aspects of future colliders, including environmental concerns and carbon footprint reduction efforts at CERN
 - **Impact on ECRs**
 - Concerns about career timelines due to long collider project development; ECRs stressed the need for transferable skills and sufficient interim projects to maintain career momentum
 - **ECR influence**
 - Encouragement for ECRs to have active roles in decision-making processes for future collider projects through formal channels like ECFA and direct communication with CERN councils



- Keep CZ ECR community in touch
 - Web page with ECR representatives contacts: www.particle.cz/ecfa/ecr
 - ecfa-ecr-cz-representatives@cern.ch
 - [Subscribe to newsletter](#)
- ECR HEP Alumni - [subscribe](#)
- And hopefully more...

Early Career Researchers in ECFA Czech Republic



European Committee for Future Accelerators (ECFA) has advisory status to CERN and to other organizations in the ECFA participating countries. In 2020, the ECFA Early-Career Researcher (ECR) Panel has been created to discuss all aspects that contribute in a broad sense to the future of the research field of particle physics. It has an advisory role to ECFA. This is a presentation of the Czech Republic representatives in ECFA ECR Panel and our activities.

[CONTACT US](#)

[ECFA TERMS](#)

ECFA ECR CZ web page

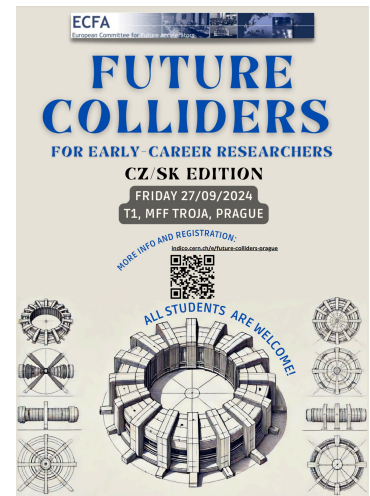
www.particle.cz/ecfa/ecr

Contact email

ecfa-ecr-cz-representatives@cern.ch

[Subscribe to our newsletter](#)

[Register for the future colliders event in Prague!](#)



Thank you for your attention!

ECFA

European Committee for Future Accelerators





- How to subscribe to a cern mailing list (e-group) using links from this talk

Log in with your CERN account

The screenshot shows the CERN login interface. On the left, a blue box highlights the 'Sign in with a CERN account' section, which includes fields for 'Username' and 'Password', a 'Forgot Password?' link, and a blue 'Sign In' button. Below this is the 'Or use another login method' section with options for 'Two-factor authentication' and 'Kerberos'. At the bottom, a disclaimer states: 'By logging in, you agree to comply with the CERN Computing Rules, in particular OCS. CERN implements the measures necessary to ensure compliance.' On the right, the 'Sign in with your email or organisation' section offers 'Home organisation - eduGAIN' and 'External email - Guest access'. Below that, the 'Or sign in with a social account' section lists 'Google', 'GitHub', 'LinkedIn', and 'Facebook'. A blue box highlights these social login options. A blue arrow points from the 'Log in with your CERN account' box to the CERN login fields, and another blue arrow points from the 'Log in with your Gmail/Facebook...' box to the social login options.

Log in with your Gmail/Facebook...



- How to subscribe to a cern mailing list (e-group) using links from this talk

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European Laboratory for Particle Physics

e-groups

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e-group description: ECFA ECR announcements for the Czech Republic

User name: Tomas HERMAN

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