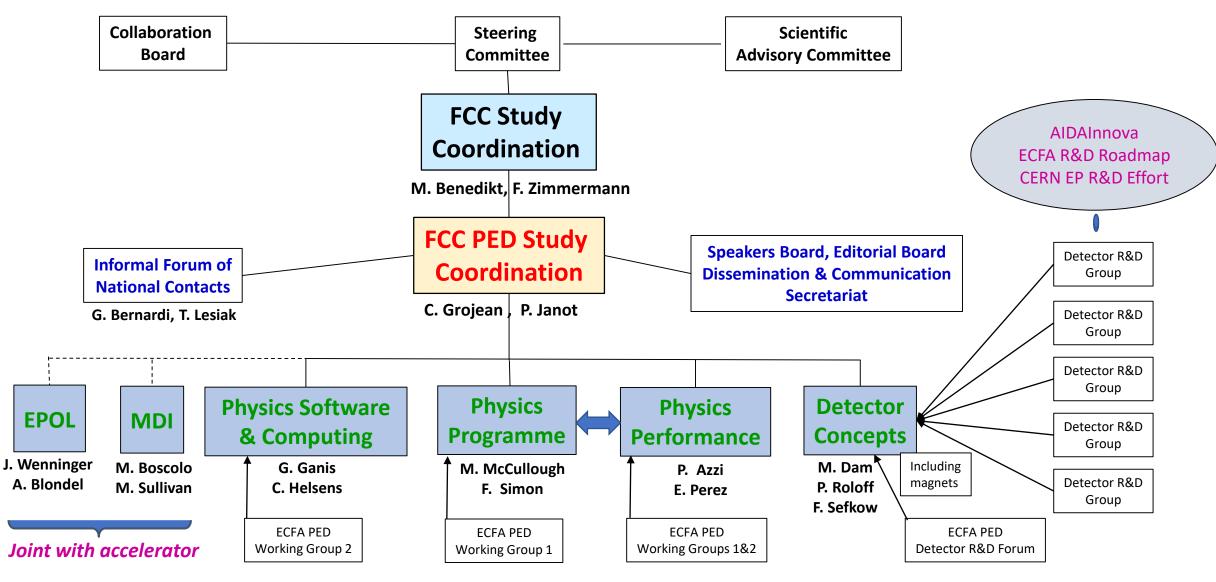
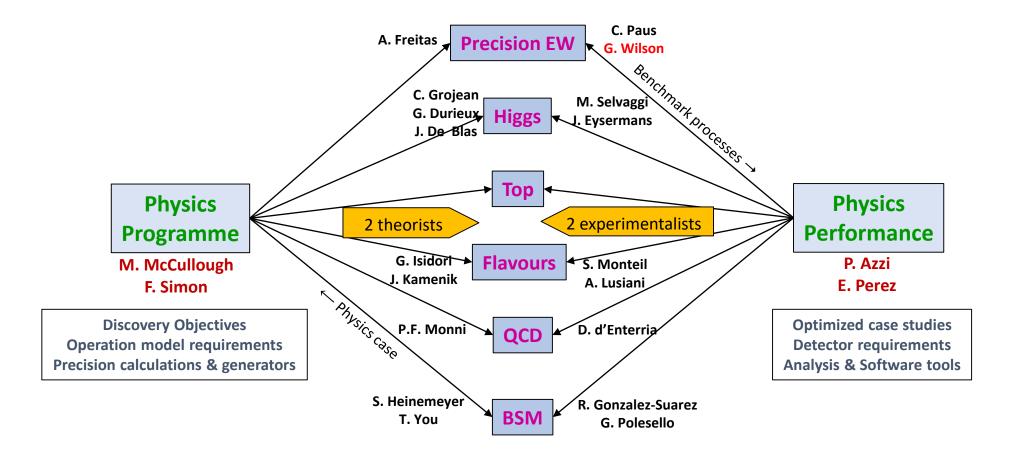
FCC-contacts – March 18th

- News from FCC
- Detector concepts

PED Organisation & conveners



Joint Physics groups



Follow-up from previous coordination meeting

- (Good!) News from Host States
 - Nov'21: Préfet de region becomes official French representative with CERN & Switzerland
 - To facilitate the execution of the FCC Feasibility Study
 - Dec'21: Swiss Federal Council will draw up a federal sectoral plan
 - To facilitate administrative procedures for FCC planning in the event of its implementation
 - 14 Feb' 22: First French information meeting about the FCC
 - Préfet de Région + deputés, sénateurs, communauté de communes, ... in Ain & Haute Savoie
 - 24 Feb' 22: Symbolic ceremony and joint declaration
 - CERN DG, Préfet de Région, Swiss Ambassador, Representative of Canton de Genève
 - In short: very fast political evolution towards FCC planning in France and Switzerland
 - More meetings will follow
 - Michael Benedikt will be present in all meetings and will report to the FCC Coordination Group
 - And we will report here in turn

Mid-term review (mid-2023)

FUTURE CIRCULAR COLLIDER

M. Benedikt

Context:

Mid-term review requested by CERN Council

From council document on FCC Feasibility Study:

- A committee including external experts will be established to review the cost of the first-stage project (the tunnel and the FCC-ee collider) by mid-2023; a second cost review will take place at the end of the Feasibility Study in 2025;

- to allow better understanding of progress and evolution of feasibility study
- Anticipation of the direction towards Strategy Update in 2026/27
- Potential date: mid 2023
 - Integrated in FCC Week 2023
- Proposal by Greek delegate:
 - presentation of review draft proposal to SPC/scientific council delegates to receive feedback BEFORE presentation to CERN Council.
 - Presentation of proposal to Council at June 2022 meeting (~1 year prior to review)
- Review committee not yet discussed, perhaps SAC?

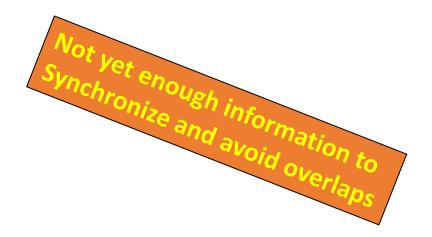
Next steps: Information received so far

Physics Programme

- Precision @ FCC: Workshop middle of June
- BSM @ FCC : June ? September ?
- 23 March : First coordination meeting of "Physics Programme"
 - Will discuss about the other workshops to have this year

• Physics Performance

- Need to kick-off the Precision EW activities
- 14 March: monthly meeting of "Physics Performance"
- Detector Concepts
 - 4 April: First monthly meeting of "Detector Concepts"





20–22 Apr 2022 CERN

ECFA Higgs Factories: 1st Topical Meeting on Reconstruction

■ 4 May 2022, 09:00 → 5 May 2022, 18:00 Europe/Zurich

DESY



- Status of Working Group activities
- Discussion of future plans
- Interaction between theory and experiments

 An important Outreach Event is planned;

Public Talk (kick-off for e⁺e⁻ activities / next large collider)



2022 ECFA e⁺e⁻ Workshop in Hamburg

Karl Jakobs

· Regular meetings (every 3 weeks) between LOC, Aidan Robson, Patricia Conde Muino and KJ

Programme Committee:

Juan Alcaraz, Patrizia Azzi, Jorge de Blas, Christophe Grojean, Jenny

List, Fabio Maltoni, Fulvio Piccinini, Dirk Zerwas

• Web page under preparation:

https://indico.desy.de/event/33640/

Programme structure fixed

Plenary sessions: Wed. am, Thurs. am, and Fri. am and pm Parallel sessions on Wed. and Thurs. pm

Outreach event: Wednesday evening Workshop dinner: Thursday evening



Pre-Meetings (CLIC, ILC, FCC, ...) on Tuesday, before the workshop
 In case you wish to have hold a pre-meeting, please let the Local Organisers know a.s.a.p.



Possible Role of WG3 (for discussion)



- It is expected that the R&D activities will be carried out in the framework of the (hopefully) newly to be established DRD Collaborations
- WG3 could take a coordinating role for e+e- R&D activities
- Initial phase:
 - Where is R&D needed (should already be clear from the roadmap)
 - In which DRDs should e+e- activities be integrated, what projects
- As time progresses
 - Collect updated requirements
 - Link to ECFA Detector Panel
 - Reminder ECFA PED Structure: WG1: Physics potential

WG2: Physics analysis methods WG3: Detector R&D Mandate to be drafted by J.C. Brient and PJ Felix will provide inputs (thanks!) WG3 conveners volunteers are welcome

FCC Week 2022: Programme and Registration

- Programme Committee
 - FCC Pillar Coordinators
 - C. Grojean
 - K. Hanke
 - P. Janot
 - T. Raubenheimer
 - T. Watson
 - F. Zimmermann
 - Others from PED
 - M. McCullough (PProg)
 - P. Azzi (PPerf)
 - F. Sefkow (DConcepts)
 - S. Eno (US + Snowmass)
 - Local Organization
 - M. Benedikt, G. Bernardi, P. Chomaz,
 - F. Zimmerman + local team
 - Registration
 - Open





FCCIS – The Future Circular Collider Innovation Study. This INFRADEV Research and Innovation Action project receives funding from the European Union's H2020 Framework Programme under grant agreement no. 951754.











FCC Week: Current schedule

• Registration fees

- Regular: 460€
- Student: 260€
- 1-day pass: 100€
- Zoom Connection: 20€
- Physics Prog/Perf (4 sessions)
 - Two talks per physics group
 - Programme aspects + plans
 - Performance aspects + plans
 - One session for case studies
- Detector Concepts (2 sessions)
- EPOL (2 sessions)
- MDI (2 sessions)
- One reserve session
 - Communication of the physics case ?
- Plenary talks
 - Monday and Friday
- Poster session on Thursday evening
- Mini-Workshop(s)
 - Friday afternoon

Г															
L	Day	Monday	·	Tues	sday		!	Wednesday		l	Thu	rsday		Friday	
	Room	Plenary	Parallel 1	Parallel 2	Parallel 3	Parralel 4	Parallel 1	Parallel 2	Parallel 3	Parallel 1	Parallel 2	Parallel 3	Parallel 4	Plenary	
		Campus Cordeliers	Jussieu CICSU	Jussieu CICSU	Jussieu CICSU	Jussieu CICSU	Campus Cordeliers	Campus Cordeliers	Réfectoire Cordeliers	Campus Cordeliers	Campus Cordeliers	Campus Cordeliers	Réfectoire Cordeliers	Campus Cordeliers	
	Time	room 470 p.	room 80 p.	room 80 p.	room 80 p.	room <u>30</u> p.	room 155 p.	room 75 p.	room 100 p.	room 470 p.	room 155 p.	room 75 p.	room 100 p.	room 470 p.	
İ	09:00-09:30	Plenary	FCCee accelerator	Phy Programme/	FCCIS WP4 Socio		FCC hh	PED: EPOL	FCCIS WP3	Reserve	PED/ACC:	TI Geodesy	Technology	Plenary	
]	09:30-10:00	session	accelerator FCCIS WP2	Programme/ Performance	Econom		accelerator	PED. EPOL	Placement	neserve	FCCee EPOL	alignment	rechnology	session	
	10:00-10:30	Chairperson	Chairperson	Chairperson	Chairperson		Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	
[10:30-11:00	Coffee break		Coffee	break			Coffee break			Coffee	break		Coffee break	
ľ	11:00-11:30	Plenary	FCCee accelerator	Phy Programme/	Technology	Dialogue	Technology	PED: Detector	Civil	Reserve	PED/ACC:	Technical	Technolog	Plenary	
ĺ	11:30-12:00	session	accelerator FCCIS WP2	Programme/ Performance	SRF	group CLOSED	recinology	Detector Concepts	Engineering	neserve	FCCee MDI	infrastruct.	Technology	session	
	12:00-12:30	Chairperson	Chairperson	Chairperson	Chairperson	F. Eder	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	
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[13:30-14:00													l l'	
[14:00-14:30	Plenary	FCCee	Phy Programme/	Technology	SC meeting	FCCee	PED: Detector	FCCIS WP5	Reserve	PED/ACC:	Technical			
[14:30-15:00	session	injector FEB	Performance	SRF	CLOSED	accelerator	Concepts	Collaboration		FCCee MDI	infrastruct.			
	15:00-15:30	Chairperson	Chairperson	Chairperson	Chairperson	F. Gianotti	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson	Chairperson			
	15:30-16:00	Coffee break		Coffee	break			Coffee break			l l				
?	16:00-16:30	Plenary	FCCee	Phy Programme/	I SRF I	SC meeting CLOSED	FCCee	Reserve	FCCIS WP5 Communicati	F					
	16:30-17:00	session	injector FEB	Performance			accelerator		on	(C;					
	17:00-17:30	Chairperson	Chairperson	Chairperson	Chairperson	F. Gianotti	Chairperson	Chairperson	Chairperson		Chairperson				
[17:30-18:00									Poster session (50 posters) & drink (Réfectoire Cordeliers)					
[18:00-18:30		1												
1	18:30-19:00	Welcome	١								(),				
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Ī	19:30-20:00		١								l l				
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Ì	20:30-21:00		١				Conference Dinner				l l				
Ì	21:00-21:30		- 	·			(Théô	âtre du Merveill	leux)					- 1	

Snowmass, reminders

- It is essential that a support statement for FCC-ee be issued by Snowmass
 - Strong FCC participation to the following Snowmass meetings is essential
 - Energy Frontier Workshop at Brown University, 28 March 1 April 2022
 - Registration at <u>https://indico.fnal.gov/event/52465/</u>
 - Virtual participation is free, but registration is necessary
 - Snowmass final workshop in Seattle, Washington on 17 26 July 2022
 - See <u>https://indico.fnal.gov/event/22303/</u>

- Newcomer @ Snowmass : the e⁺e⁻ collider forum
 - "to capture the interest for such linear and circular colliders in the US community"
 - "to provide a path for further engagement in developing a strategy toward an e⁺e⁻ collider"
 - First session in the EF Workshop at Brown

Discussions: e+e- Collider Forum

Conveners: Emilio Nanni (SLAC National Accelerator Laboratory), John Power (Argonne National Lab), Maria Chamizo Llatas Sridhara Dasu, Sridhara Dasu (University of Wisconsin), Stephen Wagner (University of Colorado, Boulder), Ulrich Heintz (Brow



FCC Snowmass white papers

- The white papers have been submitted to arXiv
- The white papers can be modified all the way to the Seattle meeting in July
 - The US FCC white paper (Editors Sarah and Dmitri)
 - Submitted to arXiv, comments to be sent to Sarah Eno \rightarrow 150 US endorsers

https://arxiv.org/abs/2203.06520

The Future Circular Collider: a Summary for the US 2021 Snowmass Process

G. Bernardi, E. Brost, D. Denisov, G. Landsberg, M. Aleksa, D. d'Enterria, P. Janot, M.L. Mangano, M. Selvaggi, F. Zimmermann, J. Alcaraz Maestre, C. Grojean, R.M. Harris, A. Pich, M. Vos, S. Heinemeyer, P. Giacomelli, M. Klute, A. Blondel, C. Paus, F. Simon, M. Dam, E. Barberis, L. Skinnari, T. Raubenheimer, S. Antusch, L.-T. Wang, J. de Blas, S. Eno, Yihui Lai, S. Willocq, J. Qian, J. Zhu, R. Novotny, S. Seidel, M.D. Hildreth, E.J. Thomson, R. Demina, J. Gluza, R. Gonzalez Suarez, F. Bedeschi, P. Azzi

 The accelerators (FCC-ee and FCC-hh) white papers FCC-ee: <u>https://www.overleaf.com/read/jbmhkjynvcgf</u> Comments to be sent to Frank Zimmermann FCC-hh: <u>https://www.overleaf.com/read/ghnjxsxcgfsc</u> Comments to be sent to Massimo Giovannozzi

Recommendations from MEXT expert panel

• See official statement here: <u>https://www.kek.jp/en/topics-en/202202251335/</u>

1. The panel recognizes the academic significance of particle physics and the importance of the research activities, including that of a Higgs factory, and understands the value of international collaborative research. However, the panel found that it is still premature to proceed into the ILC Pre-lab phase, which is coupled with an expression of interest to host the ILC by Japan as desired by the research community proposing the project.

2. Given the increasing strain in the financial situation of the related countries, the panel recommends the ILC proponents to reflect upon this fact and to reevaluate the plan. They should reexamine the approach towards a Higgs factory in a global manner taking into account the progress in the various studies such as the Future Circular Collider (FCC) and ILC.

3. The panel recommends that the development work in the key technological issues for the next-generation accelerator should be carried out by further strengthening the international collaboration among institutes and laboratories, shelving the question of hosting the ILC.

4. For realizing a very large project such as the ILC, cultivating a framework where the related countries can exchange information on their situations and discuss required steps would be important.

5. The panel recommends that the research community should continue efforts to expand the broad support from various stakeholders in Japan and abroad by building up trust and mutual understanding through bi-directional communication with the people concerned.

In light of the panel's findings, KEK will make an effort to reexamine the path for realizing the ILC as a Higgs factory, taking into account the progress in various fronts including the FCC feasibility study. In this process, the interaction with the domestic and international research community as well as the opportunities in the exchange of information through ICFA will be crucial. Also, in collaboration with the IDT, KEK will propose a framework to ICFA to address some of the pressing accelerator R&D issues for the Pre-lab, where joint developments will be done by the participating laboratories on the selected subjects. KEK and the Japanese ILC community is committed to further advance important technological and engineering development in the accelerator area and to continue the effort for the realization of the ILC.

Furthermore, KEK, in collaboration with ILC-Japan, will establish a new organization that will centrally manage ILC communications activities. The new organization will strengthen activities to communicate the significance of the ILC to all parties involved, such as the general public, academia, or industry, focusing on communicating the importance to build an international laboratory for basic science, which will contribute greatly to the development of a new generation of scientists and advancement of knowledge, science and technology.

KEK endeavors to promote these activities for the realization of the ILC in the future, maintaining a relationship of trust with related organizations.

See also: <u>https://physicsworld.com/a/panel-calls-on-physicists-to-shelve-notion-of-japan-hosting-the-international-linear-collider/</u>

Panel calls on physicists to 'shelve' notion of Japan hosting the International Linear Collider ^{01 Mar 2022 Michael Banks}

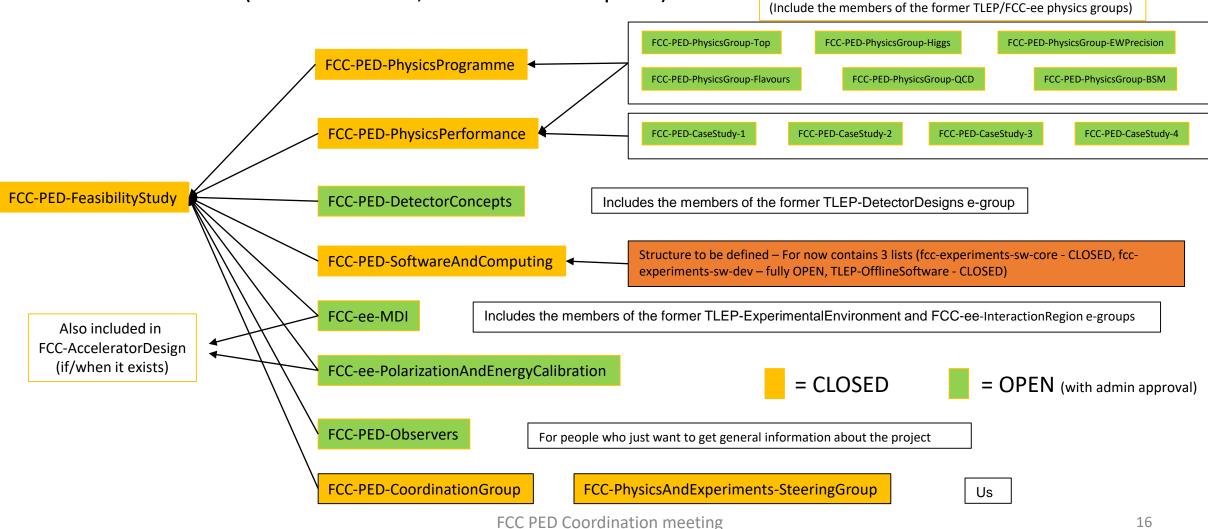


• Next step: FCC Coordination Group to contact KEK/ILC folks for collaboration with FCC FS

BACKUP (including mailing list, fellows@cern,....)

Mailing lists – an update

- Popular request during the workshop: mailing lists to subscribe to !
 - New scheme (in construction, but almost complete)



10 Mar 2022

Mailing lists : how to subscribe ?

- Subscription to one list
 - Example: FCC-PED-DetectorConcepts
 - <u>https://e-groups.cern.ch/e-groups/EgroupsSubscription.do?egroupName=FCC-PED-DetectorConcepts</u>
 - Click on "Add me as member"
- Subscription to many lists

Search for "FCC-PFD"

- Example: All physics groups, all case studies, Detector Concepts
 - <u>https://e-groups.cern.ch/e-groups/EgroupsSearchForm.do</u>

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		FCC-PED-PhysicsGroup-BSM-admin	Static	FCC	Adminstrators of FCC-PED-PhysicsGroup-BSM	Active	Patrick.Janot@cern.ch	Subscribe	
e-groups	\bowtie	FCC-PED-PhysicsGroup-EWPrecision	Static	FCC	EW/Precision Physics Group in the FCC PED Feasibility Study	Active	Patrick.Janot@cern.ch	Unsubscribe	Go to archive
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 Your subscription will be approved 	⊷	FCC-PED-PhysicsGroup-Top-admin	Static	FCC	Adminstrators of FCC-PED-PhysicsGroup-Top	Active	Patrick.Janot@cern.ch	Subscribe	

And subscribe to the groups of your choice

Mailing lists: New subscription approval

- The following rules are suggested (for discussion)
 - The approval should be left to the group conveners (also admins of the e-group)
 - E.g., Manuela B. and Mike S. for fcc-ee-MDI
 - Check if the email address corresponds to a specific institution (or if you know the person)
 - i.e., no gmail, no yahoo, no aol, etc.
 - Special cases (like people working only in other circular collider projects) should raise a flag
 - If it is not the case, contact the person directly prior to approval
 - Ask what (s)he does in life (CV?), what (s)he wants to contribute to, what is his/her institute
 - At least for MDI, EPOL & Detector Concepts, suggest that the institutes signs a MoU
 - Possibly fills an addendum with your help, for possible contributions
 - Register membership to the FCC FS Collaboration
 - Instructions on next slide

Associates, Fellows and Students @ CERN

- Next sessions of the selection committees
 - Technical and doctoral students: 5 may 2022
 - Associates and fellows: 17 may 2022
- We have a budget that can cover
 - 24 months of scientific associate every year until 2025 (through the FC Unit)

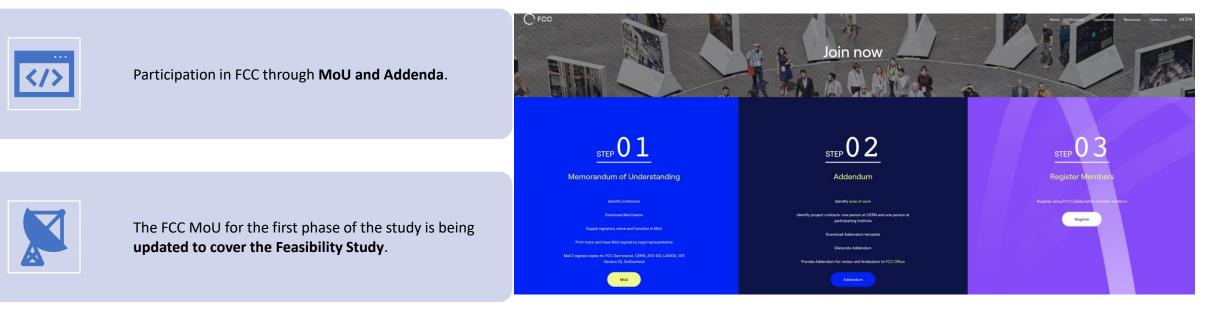
Patrizia, Jenny, Jorge(?)

- 10 fellows.year and 10 students.year in the period 2022 2025 (through FCC FS)
 - Note: The cost for 1 fellow is similar to that for 2 doctoral students
- Please send me your preliminary (final) wishes by 17 March (11 April) at the latest
 - Template for fellows and associates requests are attached to the agenda.
- Note: research fellows (for the physics groups) are "free"
 - They just need to be convinced one by one to come and work with us.
 - You are encouraged to ask people who want to work on FCC FS to apply as research fellow

ECFA PED meetings and mailing lists

- See Juan's mail for details (1 March 2022), forwarded to FCC-experiments-lepton
 - All ECFA PED workshops and seminars are under this indico category
 - https://indico.cern.ch/category/14055/
 - They appear automatically on our FCC PED web page
 - You can be reminded by subscribing to the relevant mailing lists
- Note: The ECFA IAC did not get a chance to discuss the scheduling of these meetings (or the sequence of topics)
 - Some are overlapping with FCC meetings (PED or not)
 - For example, there is mini-workshop on α_s at 3pm today, also in // with an FCC IS executive board
 - We requested with K. Jakobs that overlaps and redundancy be avoided as much as possible
 - This point was discussed yesterday at the ECFA PED IAC meeting
 - Suggestion to block a slot in the week for this kind of meetings will be taken up to the WG conveners

FCC Feasibility Study Collaboration Membership



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The current participating institutes who wish to take part in the Feasibility Study can continue to participate on the basis of the previously signed MoU until the updated MoU is signed.

https://fccis.web.cern.ch/join-now

FCC General meetings

- Suggested (back in Nov.) a monthly FCC General Meeting for everyone in the study
 - Michael Benedikt favourable to the idea & nominated Michael Hofer to help (accelerator)
 - Christos Leonidopoulos has agreed to continue on the PED side
 - Michael Benedikt discussed with Philippe Chomaz (CB chair)
 - Concluded that such meetings would be very useful
 - To be held every 2-3 months
 - Strengthen the communication within the collaboration
 - Keep community updated with important news and needs
 - Report progress of the feasibility study (PED, Accelerator, Host States, Financial aspects, ...)
 - Etc.
 - A meeting will be called to finalize the organization of these meetings
 - PED & Accelerator coordinators
 - CB Chair
 - Michael Hofer and Christos Leonidopoulos

Speaker's Büro

- One of the action items from the January meeting was to find a co-chair
 - David d'Enterria kindly agreed to join Markus Klute
 - Alain Blondel will help David and Markus to boost the activities of the Büro
 - Up-to-date list of opportunities for talks/posters in international conferences and workshops
 - Up-to-date list of abstracts
 - Application and selection of speakers
 - Up-to-date database of slides and proceedings

FCC-PED webpage

- A lot of work needed see <u>https://fcc-ped.web.cern.ch/</u>
 - The landing page is still very much FCC-ee (and even TLEP) oriented and needs updating
 - For example, the "contact us/join us" tab is outdated and should point to the new lists
 - The introductory text ought to refer to the FCC feasibility study, not to FCC-ee/TLEP
 - The Work Package pages are "under construction" (except the Physics Performance page)
 - It is up to the work package coordinators to put something useful there
 - With some introductory text (high-level objectives, organization, etc.) ٠
 - With links towards more detailed/technical pages ٠

we must develop it

• Action: make a plan to make this page a useful tool for community building



The Future Circular Collider (FCC) study is developing designs for a new research infrastructure to host the next generation of higher performance particle colliders to extend the research currently being conducted at the LHC, once the High-Luminosity ©2021 ECC-France

