

Opening & Agenda of PECFA meeting on 13 July

1. Approval of the minutes of the 105th PECFA meeting (Nov 2019 at CERN)
2. Report from the chair (40+5 min)
3. Initial views on the implementation of the European Strategy (20+10 min)
4. Report from CERN (25+5 min)
5. Report from DESY (15+5 min)
6. Report from Frascati (15+5 min) → **brief oral report**
7. Mid-term report (each 10+5 min)
 - Belgium, Bulgaria, Finland, **Sweden**
8. AOB

ECFA

European Committee for Future Accelerators



Report from ECFA chair

Jorgen D'Hondt (Jorgen.DHondt@cern.ch)

PECFA meeting, July 13th, 2020, remote

Schedule for 2020 (adapted due to COVID-19)

- RECFA meeting, 17 April 14:00-18:00 CET — REMOTE
- RECFA meeting, 15 May 14:00-18:00 CET — REMOTE
- RECFA meeting, 13 July 10:00-12:00 CET – REMOTE ← this morning
- PECFA meeting, 13 July 13:30-17:00 CET – REMOTE ← this afternoon
- [• RECFA visit to Serbia, 9-10 October ← **NEXT MEETING**
- [• RECFA & PECFA meeting at CERN, 19-20 November



ECFA@JINR versus ECFA@tele-meeting

In a previous RECFA meeting we heard about the travel restrictions and other measures taken by authorities to counter the spread of COVID-19. Overall, travel and larger gatherings were not likely or impossible during the Summer.

Therefore, it was decided to cancel the Plenary ECFA meeting on 13-15 July at JINR.

Joint Institute for Nuclear Research (Dubna, Russia): <http://www.jinr.ru/>

This is an unfortunate but necessary decision.

Please take note, in the RECFA meeting it was decided as well that when JINR would apply to host the Plenary ECFA meeting in 2022, their application would get priority.



Several topics

During the remote RECFA meetings we had the opportunity to discuss a variety of topics. In general, priority for topics that prepare ECFA towards a strong position helping our research community when we come out of the COVID-19 pandemic and with a pro-active view on the outcome of the update of the European Strategy for Particle Physics.

*Postponed (probably less adequate for a remote PECFA meeting):
Open “free” discussion time revolving around submitted topics at the end of Plenary ECFA meetings (cfr. email from Prof. Saleh Sultansoy, 16 Nov 2019)*



This report

1. Key elements of the updated European Strategy (very brief)
2. The role of ECFA in the context of the Strategy
3. ECFA Organisational topics
4. Appendix: slides on news from ICFA (mainly on the ILC in Japan)



This report

- 1. Key elements of the updated European Strategy (very brief)**
2. The role of ECFA in the context of the Strategy
3. ECFA Organisational topics
4. Appendix: slides on news from ICFA (mainly on the ILC in Japan)

Key elements of the updated European Strategy

Two key documents made public:

(main website <http://europeanstrategyupdate.web.cern.ch/welcome>)

1. a document including all recommendation:

<https://home.cern/sites/home.web.cern.ch/files/2020-06/2020%20Update%20European%20Strategy.pdf>

2. a deliberation document elaborating on the recommendations in a context:

<https://home.cern/sites/home.web.cern.ch/files/2020-06/2020%20Deliberation%20Document%20European%20Strategy.pdf>

Key (research facility) aspects of the updated European Strategy

- The full exploitation of the (HL-)LHC potential
- Continuous support for the long-baseline neutrino projects in the US and Japan
- Support for research programmes beyond colliders where they have high impact
- Globally, a Higgs Factory is the highest priority collider beyond the HL-LHC
- Investigate the feasibility of a 100 TeV hadron collider at CERN
- Strengthen the R&D for accelerators, and develop roadmaps for both accelerator and detector R&D in Europe to achieve the above
- Adjust our organisation in order to achieve the above, including societal aspects



This report

1. Key elements of the updated European Strategy (very brief)
- 2. The role of ECFA in the context of the Strategy**
3. ECFA Organisational topics
4. Appendix: slides on news from ICFA (mainly on the ILC in Japan)

The role of ECFA in the context of the Strategy

- **Detector, Experiment and Physics studies towards a Higgs Factory**
(aligned with the ECFA initiative to map the potential of Higgs physics at future colliders)
- **Organize the development of a Detector R&D Roadmap**
(additional to the ECFA Detector R&D Panel)
- **Synergy efforts with astroparticle and nuclear physics**
(aligned with our JENAS initiatives, Joint APPEC-ECFA-NuPECC Seminar)
- **Societal efforts on recognition, diversity and career aspects**
(aligned with our working groups on the topic and the ECFA initiative to organize a Strategy debate among early-career researchers)



The role of ECFA in the context of the Strategy

- **Detector, Experiment and Physics studies towards a 100 GeV energy**
(aligned with the ECFA initiative to map the potential of the next generation of accelerators)
- **Organize the development of a 100 GeV energy map**
(additional to the ECFA initiative to map the potential of the next generation of accelerators)
- **Support the development of high energy particle and nuclear physics**
(aligned with our JENAS initiatives, Joint APPEC-ECFA-NuPECC Seminar)
- **Societal efforts on recognition, diversity and career aspects**
(aligned with our working groups on the topic and the ECFA initiative to organize a Strategy debate among early-career researchers)

TOPICS DISCUSSED AND AGREED IN RECFA



1

Higgs@FutureColliders report

- an assessment of the potential of future colliding beam facilities to perform Higgs boson studies
- the analysis builds on the submissions made by the proponents of future colliders to the European Strategy Update process, and takes as its point of departure the results expected at the completion of the HL-LHC program
- <https://arxiv.org/abs/1905.03764>

“Higgs Boson studies at future particle colliders”, JHEP01 (2020) 139

Higgs Boson studies at future particle colliders

J. de Blas,^{a,b} M. Cepeda,^c J. D'Hondt,^d R.K. Ellis,^e C. Grojean,^{f,g} B. Heinemann,^{f,h} F. Maltoni,^{i,j} A. Nisati,^k E. Petit,^l R. Rattazzi^m and W. Verkerkeⁿ

^a Dipartimento di Fisica e Astronomia Galileo Galilei, Università di Padova, Via Marzolo 8, I-35131 Padova, Italy

^b INFN — Sezione di Padova, Via Marzolo 8, I-35131 Padova, Italy

^c Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), Avda. Complutense 40, 28040, Madrid, Spain

^d Inter-University Institute for High Energies (IIHE), Vrije Universiteit Brussel, Brussels, 1050, Belgium

^e IPPP, University of Durham, Durham DH1 3LE, U.K.

^f Deutsches Elektronen-Synchrotron (DESY), Hamburg, 22607, Germany

^g Institut für Physik, Humboldt-Universität, Berlin, 12489, Germany

^h Albert-Ludwigs-Universität Freiburg, Freiburg, 79104, Germany

ⁱ Centre for Cosmology, Particle Physics and Phenomenology, Université catholique de Louvain, Louvain-la-Neuve, 1348, Belgium

^j Dipartimento di Fisica e Astronomia, Università di Bologna and INFN — Sezione di Bologna, via Irnerio 46, 40126 Bologna, Italy

^k INFN — Sezione di Roma, P.le A. Moro 2, I-00185 Roma, Italy

^l Aix Marseille Univ, CNRS/IN2P3, CPPM, Marseille, France

^m Theoretical Particle Physics Laboratory (LPTP), EPFL, Lausanne, Switzerland

ⁿ Nikhef and University of Amsterdam, Science Park 105, 1098XG Amsterdam, the Netherlands

E-mail: Jorge.DeBlasMateo@pd.infn.it, maria.cepada@cern.ch, Jorgen.D'Hondt@vub.be, keith.ellis@durham.ac.uk, christophe.grojean@desy.de, beate.heinemann@desy.de, fabio.maltoni@uclouvain.be, nisati@cern.ch, Elisabeth.Petit@cern.ch, riccardo.rattazzi@epfl.ch, verkerke@nikhef.nl

ABSTRACT: This document aims to provide an assessment of the potential of future colliding beam facilities to perform Higgs boson studies. The analysis builds on the submissions made by the proponents of future colliders to the European Strategy Update process, and takes as its point of departure the results expected at the completion of the HL-LHC program. This report presents quantitative results on many aspects of Higgs physics for future collider projects of sufficient maturity using uniform methodologies.

KEYWORDS: e+e- Experiments, Electroweak interaction, Higgs physics

ARXIV EPRINT: [1905.03764](https://arxiv.org/abs/1905.03764)

1

Physics, Experiment & Detector studies towards a Higgs Factory

Support for and Acknowledgement of a series of PED@HF workshops

PED@HF – Physics, Experiments and Detector studies at Higgs Factories

ECFA acknowledges the need for the experimental and theoretical communities involved in Physics studies, Experiment designs and Detector technologies at future Higgs Factories to gather. ECFA supports a series of workshops with the aim to share challenges and expertise, to explore synergies in their efforts and to respond coherently to this priority in the European strategy for particle physics.

Such *Aix-les-Bains-type* workshops would focus on PED studies for a Higgs Factory which would match a previous ECFA initiative mapping the potential of Higgs studies at future colliders. Setting up an International Advisory Committee (IAC) would be the next step, involving some RECFAs and European leaders of the most relevant colliders (e.g. CLIC, FCC, ILC, CEPC, LHeC, muon collider) with a mandate to setup a Program Committee (PC) that would develop an agenda in consultation with the IAC, and embracing the global nature of these projects.

2

Organize the development of a Detector R&D Roadmap

To guide the Detector R&D process in Europe, defining an inclusive Detector R&D Roadmap would be a major step and a strong ambition for the community at large, both considering focused and transformational R&D and considering emerging technologies also in adjacent fields

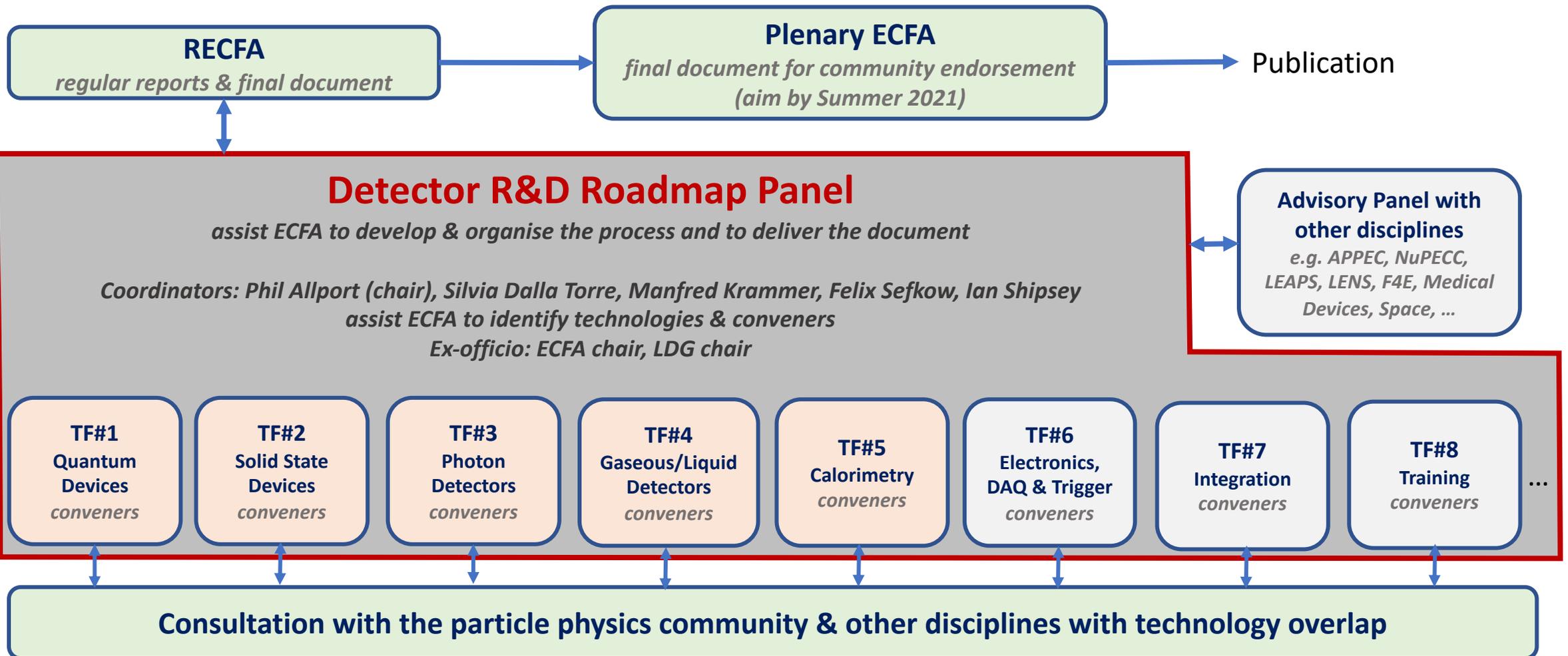
The updated European Strategy for Particle Physics calls upon ECFA to organize the development of a Detector R&D Roadmap

Organize the development of a Detector R&D Roadmap

*“Coordination of R&D activities is critical to maximise the scientific outcomes of these activities and to make the most efficient use of resources; as such, there is a clear need to strengthen existing R&D collaborative structures, and to create new ones, to address future experimental challenges of the field beyond the HL-LHC. **Organised by ECFA, a roadmap should be developed by the community to balance the detector R&D efforts in Europe**, taking into account progress with emerging technologies in adjacent fields. The roadmap should identify and describe a **diversified detector R&D portfolio that has the largest potential to enhance the performance of the particle physics programme in the near and long term**. This community roadmap could, for example, identify the grand challenges that will guide the R&D process on the medium- and long-term timescales, and define technology nodes broad enough to be used as the basis for creating R&D platforms. **This will allow concerted and efficient actions on the international scale addressing the technological challenges of future experiments while fostering an environment that stimulates innovation and collaboration with industry.**”*

Extract from the 2020 Strategy update

Organization to structure the consultation with the community



example Task Forces at this stage

Synergy efforts with astroparticle and nuclear physics

3

“There are **many synergies between particle physics and other fields of research**. Clear examples are nuclear and astroparticle physics, which address common fundamental questions and use common facilities and technology in areas of common interest. To further explore and enhance the synergies, a joint seminar organised by APPEC, ECFA and NuPECC was recently established. For example, on the diverse topic of dark matter addressed with complementary experimental approaches, communication and results-sharing across communities is essential.”

Extracts from the 2020 Strategy update

CALL FOR VENUES FOR THE JENAS 2021 EVENT



CALL FOR VENUES FOR THE JENAS 2021 EVENT

Following the successful first Joint APPEC-ECFA-NuPECC Seminar in Orsay (<https://jenas-2019.lal.in2p3.fr>), the chairs of APPEC, ECFA and NuPECC issue a call for venues for the second JENAS event to be organized in the autumn of 2021. The Joint Seminar is to inform our communities about each other's scientific, technological and organizational challenges and opportunities.

At this stage we launch an open call to receive proposals for venues for this 3-day meeting. **Proposals should be communicated to the three chairs of APPEC, ECFA & NuPECC, and reach us the latest on 21 September 2020.**

Shortly after, the organising board of JENAS2019 will proceed to select the venue for JENAS2021 (<https://jenas-2019.lal.in2p3.fr/organisingboard/>).

A proposal should contain information about the venue, the available dates in October-November 2021, the plenary meeting room to host 300 participants, a few additional rooms with 20 to 40 seats, the initial composition of the local organizing team, options for accommodation and potential transport, and the initial estimate of the participation fee.



Following JENAS 2019: Expressions-of-Interest from JENAS

The JENAS2019 event at Orsay allowed astroparticle, nuclear and particle physics researchers to sniffle into each other's activities. The identified overlapping challenges might transform via joint programs into stronger opportunities to further our understanding of both the smallest and the largest structures in nature.

Being informed by the presentations and discussions and with a view to further explore topical synergies between our disciplines, we issue a call for novel Expressions-of-Interest (EoI). We seek bottom-up and community thoughts expressed in a non-binding EoI for further discussion within the APPEC, ECFA and NuPECC committees or consortia. These thoughts can revolve around potential synergies in technology, physics, organization and/or applications.

EoIs in the form of a brief letter are to be submitted to the chairs of the committees/consortia. In the letter you can elaborate on the synergy topic, the objectives, the initial thoughts and the potential communities involved. This letter is not the end of the process, but potentially the start of further communications on the expressed interest.

Within our committees/consortia and taking into account their respective roles in our communities, we will discuss and propose actions to further your thoughts.

email to PECFA members on 23 October 2019



Expressions-of-Interest (Eol) from JENAS

In total five Eols have been received (#1, #2):

- **Machine Learning-Optimized Design of Particle Detector Layout for Future Scientific Experiments** (T. Dorigo et al., proposal attached to indico agenda)
create a research network to share expertise for an integrated approach to detector designs from detector technology to reconstruction and analysis, ...
- **Initiative for Dark Matter in Europe and beyond: towards facilitating communication and result sharing in the Dark Matter community (iDMEu)** (G. Lanfranchi et al., proposal via <https://indico.cern.ch/event/869195/overview>)
virtual forum across communities to exchange results, theory progress, develop common language/benchmarks, town meetings, ...

Expressions-of-Interest (EoI) from JENAS

In total five Eols have been received (#3, #4, #5):

- **Gravitational Wave Probes of Fundamental Physics** (T. Galatyuk, P. Pani et al., <https://agenda.infn.it/e/GWFundPhys>)
foster synergies and strengthen the connections across disciplines to share expertise, ...
- **Nuclear Physics at the LHC** (L. Fabbietti, A. Kalweit et al., proposal attached to indico agenda)
explore the unique opportunity for a multidisciplinary investigation of the hyperon-puzzle in neutron stars and to enable the search for dark matter in cosmic rays, ...
- **Storage Rings for the Search of Charged-Particle EDMs** (C. Carli, P. Lenisa, J. Pretz for the JEDI and CPEDM collaborations, proposal attached to indico agenda)
bring together technical and scientific expertise across disciplines towards a design of an all-electric precision storage ring which can store clockwise and counter-clockwise polarized hadron beams, ...

Expressions-of-Interest (Eol) from JENAS

In general, these topics have been noted in the updated Strategy for particle physics. What can APPEC, ECFA and NuPECC offer to strengthen the synergies for an Eol topic:

- Supporting the **organization** of (tele-)gatherings across communities on the Eol topic (workshops, town meetings, platforms for continuous discussions, ...)
- Make **announcements** related to the Eol topic through our channels across the three disciplines
- Help with the **dissemination** of the activities and potential reports of the Eol topic (reports at APPEC, ECFA and/or NuPECC meetings, articles in our newsletters, ...)
- Link the project specific **website** on the APPEC, ECFA and/or NuPECC websites
- Help with **community wide calls** to seek collaborators, with calls for venues for specific events and with funding applications for the Eol topic
- Raise the **awareness** of the Eol topic in our scientific communities and to policy-making bodies
- Organize **dedicated sessions at the JENAS events** on the Eol topic

Expressions-of-Interest (Eol) from JENAS

The path towards the APPEC, ECFA and NuPECC help concrete, chronologically:

1. For the collection of Eol topics we have a **joint APPEC-ECFA-NuPECC task force**, and with all task force members together, we aim to obtain coverage for all Eol topics
2. The chairs of APPEC, ECFA and NuPECC will organize a **kick-off gathering** with the Eol proponents and the identified APPEC, ECFA and NuPECC task force members
3. The proponents will be asked to create (if not yet done) a **dedicated website for their project**, indicating the JENAS logo and the link to APPEC, ECFA and NuPECC
4. The Eols coordinators and the task force members connected to a topic will be invited to organise **follow-up topical meetings** with the objectives to come to a concrete plan
5. Report to our committees/consortia the **concrete plan** for consideration and endorsement
6. A dedicated APPEC-ECFA-NuPECC **JENAS website** will be created indicating past and future JENAS events and the weblinks to the Eol websites
7. Agree on a **communication line** between APPEC, ECFA and NuPECC for each of the Eol topics, e.g. initially through the members of the task forces

Expressions-of-Interest from JENAS – Task Forces

ECFA members of the Joint APPEC-ECFA-NuPECC task force:

Task Force ML topic: Marek Tasevsky (FZU, Cz) and Mikko Voutilainen (HIP, Fi)

Task Force DM topic: Claude Vallée (CPPM, Fr) and Isabell Melzer-Pellmann (DESY, De)

Task Force GW topic: Nick van Remortel (UA, Be) and Peter Levai (Wigner, Hu)

Task Force Nuclear@LHC: *no ECFA delegate (only APPEC and NuPECC)*

Task Force EDM topic: TBC

APPEC and NuPECC members in the document attached to the indico page.

4

Societal efforts on recognition, diversity and career aspects

*“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.**”*

Extract from the 2020 Strategy update



Recognition of individuals in large collaborations

*“It is important that **recognition for individuals in large collaborations be improved, following the guidelines of the corresponding ECFA study group.** In particular, journals dedicated to technologies and theoretical and experimental methods should be supported.”*

Extract from the 2020 Strategy update

Working group on recognition together with APPEC and NuPECC
(ECFA contacts: Marcel Merk (co-chair), Bogna Kubik, Djamel Boumediene)

Recognition of individuals in large collaborations

Key objectives within an advisory and exploratory mandate of the working group:

- **exchange and discuss best practices** among the large collaborations across disciplines, and reflect on alternative or additional procedures on the topic of recognition
- after the initial ECFA survey and study in 2018 (PECFA meeting at CERN Nov 2018), potentially perform **a second survey** in 2020-2021 to monitor the progress on the topic
- the working group will not be an ombuds-committee for individual problems
- **report back** to APPEC, ECFA and NuPECC
- the collaborations remain themselves responsible for the actions of the working group and to implement (or not) recommendations

Recognition of individuals in large collaborations

Due to COVID-19 the WG decided to postpone activities earlier this year but resumed since May when invitation letters on behalf of APPEC-ECFA-NuPECC were sent to initially the following collaborations (large collaboration, with >40 authors). First meetings are planned during the Summer period.

APPEC (34)

AMS, Antares, Auger, Baikal GVD, Borexino, CALET, CTA, CUORE, DAMIC, DarkSide, Darwin, DEAP, Edelweiss, ET, EUCLID, Fermi-LAT, Gerda, IceCube, Juno, Katrin, Km3NeT, Legend, LIGO, LISA, LSST, MAGIC, Pamela, SNO+, Virgo, XENON, HESS, HAWC, JEM-EUSO, LHAASO

ECFA (14)

ATLAS, Belle II, CALICE, Cast, Cloud, DUNE, CMS, Compass, Dirac, LHCb, NA61/SHINE, NA62, Solid, T2K

NuPECC (33)

A2, ACTAR/TPC, AD, AEGIS, AGATHA, ALICE, ALPHA, BM@N, CBM, CLAS, COLLAPS, CRIS, DESIR, Galileo, Ganil, Gbar, HADES, HISPEC/DESPEC, IDS, INDRA, Isolde, JEDI, MATS, Miniball, MPD, nTOF, NFS, NUSTAR, PANDA, PARIS, R3B, S3, SuperFRS



Diversity in our scientific collaborations

*“For particle physicists, **the principles of equality, diversity and inclusion should be clearly and recognisably present in all of the field’s activities**. Training appropriate to this end should be available at CERN and other institutes, and best practices shared among them.”*

Extract from the 2020 Strategy update

Working group on diversity together with APPEC and NuPECC
(ECFA contact: Patricia Conde Muíño, Nadia Pastrone)

Diversity charter

- Diversity charter developed last year
 - Focus on collaborations, conferences or organisations
 - Focus on monitor able variables (easy to collect with current laws)
 - First survey available to ease collection of information
 - Exercised at JENAS

slide from Patricia Conde Muñio

Home News Plenary ECFA Restricted ECFA ECFA Newsletters Archives Diversity Charter Related websites

PLENARY ECFA
 Composition
 Meetings
 Documents

RESTRICTED ECFA
 Composition
 Meetings
 Documents

Diversity Charter

APPEC ECFA NuPECC
 European Committee for Future Accelerators

Diversity Charter APPEC-ECFA-NuPECC

APPEC^o, ECFA, and NuPECC^o recognise the importance of diversity as a motor to boost productivity and innovation, fight prejudice and discrimination and contribute to the improvement of social and economical standards.

The three organisations joined together to propose a Diversity Charter to be signed by research organisations, collaborations and conferences within the fields of Particle Physics, Nuclear Physics and Astroparticle Physics, who value diversity and commit to promote equal opportunities at all level.

In a first phase, diversity within the different signatories will be monitored. To simplify the task of monitoring for all partners involved, a survey has been made available to be filled out on a voluntary and anonymous basis by affiliated people and participants to the signatories. Initially, few basic variables are proposed for data collection to simplify privacy issues. If any signatory entity prefers to monitor the data itself, it is free to use any other method and just communicate the results of its analysis.

[Survey to monitor diversity^o](#)

Find the charter [here](#)

Diversity Charter Agreements:

▶ [APPEC, ECFA and NuPECC](#)

on ECFA website

Since last year

- Collected lists collaboration and contact of spokespersons
- Identified a list of conferences and contacts from organisers
 - Only > 150 people
- Prepared draft e-mails to
 - Conferences organiser
 - Collaborations
- Mails to be signed by chairs of APPEC, ECFA, NuPECC

slide from Patricia Conde Muño

Dear organizers,

As you are organizing an international conference, we are approaching you with the request to support the Diversity Charter of APPEC, ECFA, NuPECC accessible from <http://ecfa.web.cern.ch/content/diversity-charter>.

The joint Diversity Charter proposed by the consortia APPEC, ECFA and NuPECC (representing the astroparticle, particle and nuclear physics communities, respectively) has Diversity as its principle, understood as the acknowledgement, respect and appreciation of the reality that people differ in many ways, visible or invisible, mainly in age, gender and sexual orientation, national and ethnic origin, civil status and familial situation, religious convictions, political and philosophical opinions, and physical ability.

We would like to request that you link the Survey on Diversity accessible from the same web site (which is now protected) inviting participants to answer to it in the registration process. The survey results are used as a guideline to APPEC, ECFA and NuPECC for monitoring how diverse our communities are. There are only a small number of questions asked in this questionnaire, namely on gender, tenure diversity (career level), age diversity (age groups), working country and citizenship. The three consortia will use the results of this first study, which will be finalized by the end of 2021, to come up with recommendations and measures for large collaborations and conferences regarding the diversity issue.

The questionnaire takes about 2 minutes to fill and can be coupled to your registration systems as a voluntary part of the form. There will be absolutely no coupling between the person who fills the form and the information used and disseminated by the consortia. Nevertheless, we will ask the question whether the participant is willing to take part in the survey depending on the privacy laws governing their own organization.

We kindly ask you to take this extra small step and help us in the ongoing study. Let us know if you have any further questions regarding this study.

Sincerely yours,

xxxxx

on hold due to COVID-19

Report from Early-Career Researchers debate on Strategy

[\(https://inspirehep.net/literature/1779145\)](https://inspirehep.net/literature/1779145)

- Group of 180 researchers mandated to discuss beyond the appearance of the Briefing Book
- Nominated from ECFA countries aiming for a reasonably balanced demography
- Debated on the strategy topic on 14 Nov 2019, preview of report circulated to ECFA and ESG
- They conducted a survey among them with ~118 out of 180 participants

- Observations presented in Bad Honnef (see for example next slide)

From the executive summary of the ECR report

- *The **attractiveness of our field** is at risk and dedicated actions need to be taken to save its future. When continuing on the current path, the field will likely be unable to attract the brightest minds to particle physics.*
- *While being open for future international projects, ECRs emphasize the **importance of a European collider project soon after HL-LHC**. Postponing the choice of the next collider project at CERN to the 2030s has the potential to negatively impact the future of the field.*
- *The ECRs strongly recommend future project evaluations and strategy updates to **include the social impact of their implementation**: equal recognition and career paths for the various domains, a healthy work-life-balance and the reconciliation of family and a scientific career is a must.*
- *A strong statement from CERN putting the **environment and sustainability** at the forefront of decision-making would have a significant impact.*
- *A **strong and diverse R&D program** on accelerators and detectors must be a high priority for the future.*
- ***Software and computing activities** must be recognized not only as means to do physics analyses, but as research that requires a high level of skill.*
- *In an effort towards reducing the carbon footprint associated with travel for work purposes, our community can drive the **development of new software for remote meetings***

Towards an ECFA Early-Career Researchers (ECR) Panel

From the ECR report: “Overwhelming consensus was reached on the idea to **establish a permanent ECR committee as part of ECFA**. Such a committee would be able to give a mandate to a few individuals representing the ECRs in various bodies.”

“Many of the topics mentioned above have been discussed amongst early-career researchers, and it is **recommended they form a panel, under the auspices of ECFA**, in which these subjects can be discussed and monitored.”

Extract from the 2020 Strategy update

Towards an ECFA Early-Career Researchers Panel

- We have been pro-active in RECFA, and formed earlier this year a task force to explore, including consulting the views of early-career researchers themselves, towards a mandate for an ECFA ECR Panel.
- **Task Force**: Kati Lassila-Perini, Dave Milstead, Pavol Strizenec, ECFA Chair and Scientific Secretary
- The following proposal from the Task Force was discussed and agreed within RECFA, and takes into account the views of the early-career researchers we consulted (i.e. a subgroup of those that debated on the Strategy in November 2019).

Mandate for the ECFA ECR 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.
- Members are, in general, PhD students and postdocs, either with a non-permanent contract or with up to 8 years after obtaining the PhD. Up to three members can be nominated by each ECFA country and each major laboratory represented in ECFA for a mandate of 2 years, extendable with another 2 years. In general, the delegation from each ECFA country should have at least one PhD student and at least one postdoc. Nominations are to be endorsed by Plenary ECFA. Members are nominated by and assigned to the quota of the country they are hired at the moment they become member of the panel.
- 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.
- From among the ECFA ECR Panel members, a delegation of up to five members is assigned by the panel as observers to Plenary ECFA meetings, and one member is assigned by the panel as observer to Restricted ECFA meetings.
- The ECFA ECR Panel would normally hold two plenary (tele-)meetings per year among its members.
- The activities of the ECFA ECR Panel are organised by a smaller group selected by the panel itself from among its members. To achieve their aims, the ECFA ECR Panel can proceed among others with regular meetings, topical working groups and studies related to the early-career researchers community in particle physics in ECFA countries.
- The ECFA ECR Panel can invite observers to its meetings, for example to seek adequate diversity among the participants to conduct its business.

Key topics noted during the discussions of the Task Force

- **Main objective of an ECFA ECR panel:** in a broad sense to contribute to all aspect related to the future of the field and accordingly to inform in a pro-active dialogue ECFA on ECR related aspects
e.g. participate in the European Strategy preparation, career paths, ...
- **How to define “early” in ECR:** as a guideline, both PhD students and non-permanent postdocs or postdocs up to 8 years after obtaining the PhD (typical cut-off for fellowship applications)
e.g. both are at different career/training stages and in general have other aspects on their minds
- **How to connect an ECFA ECR panel to ECFA:** standing item on the agenda of the annual PECFA meeting at CERN; one delegate from the ECR panel to join the RECFA visits as observer (inform RECFA about ECR aspects and inform the ECR panel on ECFA matters); up to 5 delegates in PECFA as observer
- **How to assign members:** initially similar to the nomination of ECFA members for which the country might involve existing national ECR panels; up to three delegates per country and major institute represented in ECFA (guideline: at least one PhD student and one postdoc); in principle delegates must be hired at an institute in the country when they become member (we realise that ECRs will change institute over the years); act as individuals but should be able to represent the views of their high-energy physics community; a two-year mandate that is extendable
- **Meetings of the ECFA ECR panel:** in general remote and organised by a core group; opportunity for a face-to-face meeting at CERN connected to the PECFA meeting at CERN (e.g. to prepare their report to PECFA)

The role of ECFA in the context of the Strategy

- **Detector, Experiment and Physics studies towards a Higgs Factory**
(endorsement to initiate the process towards a series of workshops)
- **Organize the development of a Detector R&D Roadmap**
(endorsement to get organized with a view to launch the process later this year)
- **Synergy efforts with astroparticle and nuclear physics**
(take note of the call for venues for the next JENAS event in 2021)
- **Societal efforts on recognition, diversity and career aspects**
(endorsement to create an ECFA Early-Career Researcher panel)



This report

1. Key elements of the updated European Strategy (very brief)
2. The role of ECFA in the context of the Strategy
- 3. ECFA Organisational topics**
4. Appendix: slides on news from ICFA (mainly on the ILC in Japan)



ECFA Organisational topics

- **Major laboratories represented in ECFA**
- **The schedule for ECFA in 2021**
- **New members**
- **ECFA Newsletter**
- **Setup of an ECFA Chair election committee**



Major laboratories represented in ECFA

1

Extract from the ECFA Terms of Reference (ECFA/81/52/Rev.5, 16 November 2017)

6.2 RESTRICTED ECFA

Restricted ECFA is composed of one member per participating country, confirmed every three years and generally appointed for at most two three-year periods . The [Director-General of CERN](#), the [Director of the Frascati National Laboratory](#) and the [Director for Particle Physics at DESY](#) are ex-officio members. The CERN Director responsible for research is invited, and representatives of national or international laboratories or organizations which are of importance for ECFA's activities can also be invited.



Major laboratories represented in ECFA

The slot for the three laboratories (CERN, DESY, Frascati) appeared in 2009. Before that time only CERN and DESY were represented in RECFA. Probably because there were running particle physics experiments in these labs at that time.

These laboratories report during regular RECFA and Plenary ECFA meetings.

Surely today there might be additional major laboratories to consider for ECFA, for example the new combined institute on the Orsay campus which we heard about during the JENAS event.

In RECFA we opted to revisit the list.

Major laboratories represented in ECFA

Concrete proposal for benchmarks to be used as gauges in our deliberations:

- Hosted by (at least) one of the ECFA countries;
- The European research community collaborates in particle physics experiments at accelerators, or accelerator structures, which are operational today at the laboratory, or are being constructed;
- Leading accelerator R&D towards colliders for particle physics is present today at the laboratory, or the infrastructure is being constructed;
- An extensive and demonstrated European user community at the laboratory such that the *lab-to-community* communication, provided by ECFA, is essential for the well functioning of the laboratory (*lab-to-lab* communication remains a purview of the Laboratories Director Group).

Plenary ECFA is to endorse these benchmarks and accordingly a call for proposals would follow to be submitted to the ECFA Chair and Scientific Secretary aiming for a first RECFA discussion in October.



2

The schedule for ECFA in 2021 – *for endorsement*

Depends on the evolution of COVID across Europe. In consultation with the relevant RECFA delegates, the 2021 slots keep the initial sequence as planned in 2020

- March: France RECFA visit
- April: Ukraine RECFA visit
- May: Denmark RECFA visit

July 24: EPS-HEPP conference (July 21-28, Hamburg): RECFA and PECFA meeting
(in view of COVID, the green light for EPS-HEPP-2021 is being debated)

October: Greece... or Serbia (depending on COVID-19 in 2020)

October: ICFA Seminar at Berlin (*on invitation only*)

November 18-19: RECFA and PECFA at CERN

next step is to synchronise with other events



New members

Croatia (new country)					
Endorsement	Planinic	Mirko	Prof	planinic@phy.hr	R
Endorsement	Puljak	Ivica	Prof	puljak@fesb.hr	P
Endorsement	Brigljevic	Vuko	Prof	Vuko.Brigljevic@cern.ch	P
Germany					
Leaving	Garutti	Erika	Prof	erika.garutti@desy.de	P
Leaving	Hansmann-Menzemer	Stephanie	Prof	menzemer@physi.uni-heidelberg.de	P
Leaving	Raffelt	Georg	Prof	raffelt@mpp.mpg.de	P
Endorsement	Mass	Frank	Prof	maas@him.uni-mainz.de	P
Endorsement	Gallo	Elisabetta	Prof	elisabetta.gallo@desy.de	P
Endorsement	Schmidt	Alexander	Prof	alexander.schmidt@physik.rwth-aachen.de	P
Israel					
Renewal	Gross	Eilam	Prof	eilam.gross@cern.ch	R
Italy					
Leaving	Zoccoli	Antonio	Prof	Antonio.Zoccoli@bo.infn.it	R
Endorsement	Meroni	Chiara	Prof	chiara.meroni@mi.infn.it	R
Portugal					
Leaving	Marques	Rui	Prof	rui@coimbra.lip.pt	R
Endorsement	Conde Muno	Patricia	Prof	patricia.conde.muino@cern.ch	R
Sweden					
Leaving	Lund-Jensen	Bengt	Prof	blj@kth.se	P
Endorsement	Ferrari	Arnaud	Prof	arnaud.ferrari@physics.uu.se	P
Turkey					
Leaving	Sultansoy	Saleh	Prof	ssultansoy@etu.edu.tr	P
Leaving	Ali etin	Serkant	Prof	Serkant.Cetin@cern.ch	P
Endorsement	akır	Altan	Prof	altan.cakir@itu.edu.tr	P
Endorsement	Karasu Uysal	Ayben	Prof	ayben.karasu@karatay.edu.tr	P

ECFA members
outgoing & incoming
renewed

for endorsement by Plenary ECFA

Fabio Bossi (fabio.bossi@LNF.INFN.IT) will
replace Pierluigi Campana to represent
LNF in RECFA and PECFA

Towards an update of their delegation,
the UK revisits its procedures to nominate
ECFA members, potentially with an
extension from 4 to 6 members in PECFA.
In reply, I informed them we would
welcome their proposal in November.



July 13th, 2020

Report from ECFA chair

Teresa Rodrigo **(1956 – 2020)**

ECFA member since 2019

Passed away on 20th of April 2020

CERN Bulletin:

<https://home.cern/news/obituary/experiments/teresa-rodrigo-anoro-1956-2020>



Teresa Rodrigo
(1956 – 2020)

ECFA member since 2019

Passed away on 20th of April 2020

Incoming PECFA member from Spain:
Carlos Salgado (Director of IGFAE)
carlos.salgado@usc.es



The ECFA Newsletters

ECFA Newsletters #1 - #2 - #3 - #4

available on the ECFA website:

<https://ecfa.web.cern.ch>

The e-group remains available for anybody with a CERN account (or at least a CERN lightweight account) can register.

One can do so under "Members" via the following link

<https://e-groups.cern.ch/e-groups/Egroup.do?egroupId=10319139&AI>





The ECFA Newsletters

For ECFA Newsletter #5:

- Notes from ECFA Chair and Scientific Secretary
- News from CERN, DESY, Frascati
- Brief written version of each of the presented midterm reports
- An article reporting on the EuPRAXIA CDR (<http://www.eupraxia-project.eu/eupraxia-conceptual-design-report.html>)
- An article reporting on the paper on LHeC that has been prepared (CERN-ACC-Note-2020-0002, http://www-fp.usc.es/nestor/LHeC_draft2.pdf)



ECFA chair election (2021-2023)

4

- The organisation of the election of the next ECFA chair is mandated to an election committee within RECFA
- **Election Committee**: Mogens Dam, Paris Sphicas, Pavol Strizenec
- The election committee is tasked to propose to RECFA an election process at our meeting on 13 July and after agreement to announce it to Plenary ECFA



Election Timeline	Committee: Paris Sphicas, Pavol Strizenec, Mogens Dam
6 June – 10 July	Nomination of candidates => After slow start, 8 nominations received
13 July	Today's ECFA meeting
During next week	Contact nominees
17 August	Announce list of candidates who have accepted to run
11 September	Distribute CVs and statements from candidates to RECFA
10 October	RECFA Meeting: One-round electronic election

Electronic Election Procedure

- ◆ Using tool <https://www.opavote.com/>
- ◆ One round voting using procedure of Instant Runoff Voting
 - <https://www.opavote.com/methods/instant-runoff-voting>
 - Require at least 50% majority
 - In case a 50% majority would not be reached, arrange new election between two top candidates

ECFA Organisational topics

- **Major laboratories represented in ECFA**
(endorsement to announce a call for proposals)
- **The schedule for ECFA in 2021**
(endorsement of the schedule)
- **New members**
(endorsement of new and re-newed members)
- **ECFA Newsletter**
- **Setup of an ECFA Chair election committee**
(take note of the process)

Thank you for your attention

1. Key elements of the updated European Strategy (very brief)
2. The role of ECFA in the context of the Strategy
3. ECFA Organisational topics
- 4. Appendix: slides on news from ICFA (mainly on the ILC in Japan)**

Report from ICFA meeting at SLAC (20-22 Febr 2020)

International Committee for Future Accelerators (<http://icfa.fnal.gov>)

Report from ICFA meeting at SLAC (20-22 Febr 2020)

Current members:

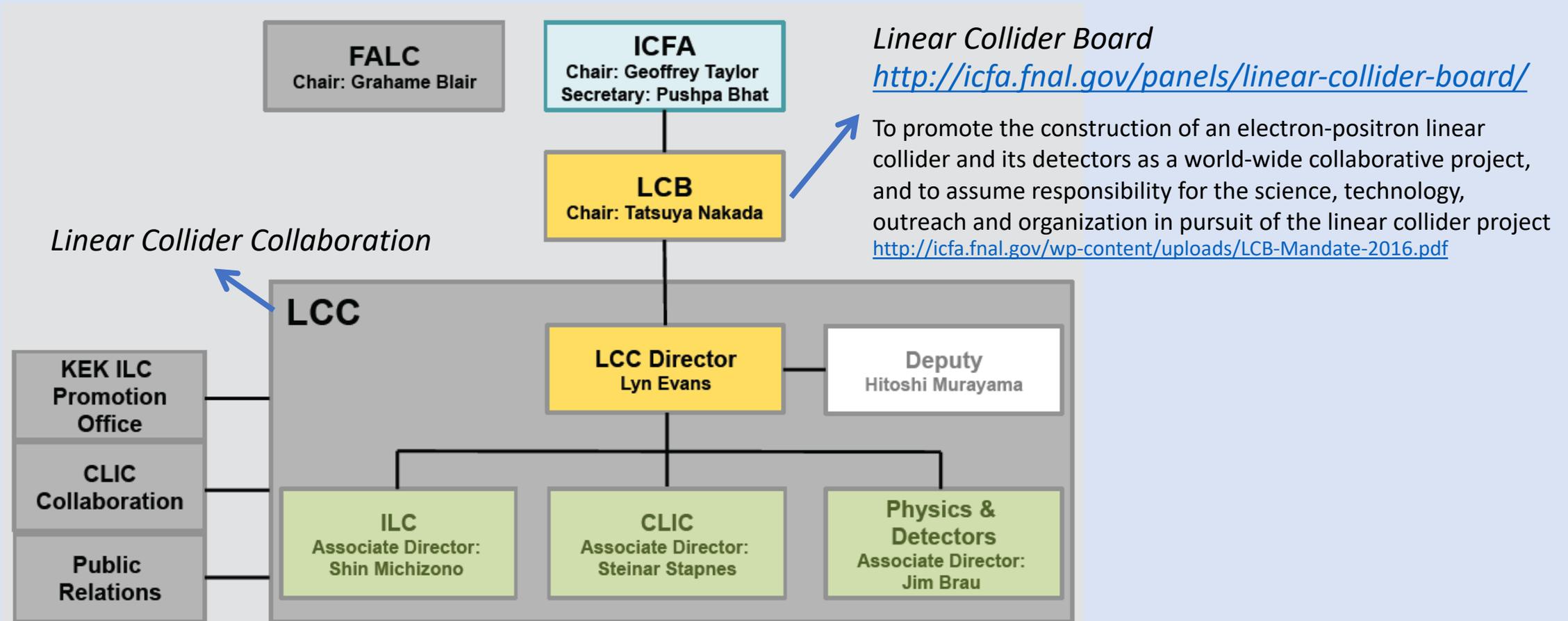
- G. Taylor (Chair, Australia), P. Bhat (Secretary, USA)
- J. D'Hondt, F. Gianotti, J. Mnich (CERN Member States)
- N. Lockyer, Z. Huang, J. Incandela (USA)
- I. Koop, V. Petrov (Russia)
- Y. Wang (China)
- T. Mori, M. Yamauchi (Japan)
- M. Roney (Canada)
- E. Álvarez, V. Matveev, P.A. Naik (Other Countries)
- H. Schellman, Chair of the IUPAP Commission on Particles and Fields (ex officio)

Report from ICFA meeting at SLAC (20-22 Febr 2020)

Current panels:

- ICFA Instrumentation Innovation and Development Panel (Chair — Ian Shipsey, Oxford)
- ICFA Beam Dynamics Panel (Chair — Ingo Hofmann, GSI/TUD)
- ICFA Panel on Advanced and Novel Accelerators (Chair — Bruce Carlsten, Los Alamos)
- ICFA Standing Committee on Interregional Connectivity (Chair — Harvey Newman, Caltech)
- ICFA Study Group on Data Preservation in High Energy Physics (Chair – Cristinel Diaconu, CPPM, Marseille)
- **Linear Collider Board (Chair – Tatsuya Nakada, EPFL, Lausanne)**
- ICFA Panel on Sustainable Accelerators and Colliders (Chair — Mike Seidel, PSI)

Report from ICFA meeting at SLAC (20-22 Febr 2020)



Report from ICFA meeting at SLAC (20-22 Febr 2020)

Timeline of recent actions revolving around the ILC in Japan

- March 2019: the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT) mentions the ILC project is to be considered by the Science Council of Japan (SCJ)
- Throughout 2019: the SCJ develops its Master Plan for Large-Scale Research Projects (all scientific disciplines)
- January 2020: in total 59 projects invited for the interview (including ILC) and among them 31 project listed as highest priority projects (not including ILC)
- MEXT to develop its resource-loaded Roadmap based on the SCJ Master Plan including all 59 projects invited for the interview (including the ILC); Roadmap expected around August 2020
- ICFA meeting: status report from MEXT by Hiroshi Masuko (Deputy Director-General, MEXT Research Promotion Bureau) and by Takeo Kawamura (Chair, Federation of Diet Members for ILC)
- Additionally: support for an ILC pre-lab expressed by the US in letters from the Deputy State Secretary and the Secretary of Energy to their Japanese equivalent, and reported at the ICFA meeting by Chris Fall (Director, DOE Office of Science)

MEXT status report (Hiroshi Masuko)

- The report, i.e. update wrt statement of March 2019, is coordinated among all ministries in Japan
- Expresses the need for collaborative agreements with international partners in order to realise the ILC, i.e. not only the announcement of interest, but a more formal agreement for cost sharing is to be established
- Mentions that in bi-lateral meetings Germany, France and the UK, France expressed to have other commitments to various international and domestic projects and do not have the financial leeway to participate in the ILC project at this moment
- Will continue to work with partners and move towards multi-lateral meetings, including for example Germany, France, US and the UK



Federation of Diet member for ILC speech (Takeo Kawamura)

- Since 2006, the Federation worked with scientists to explore the path to realise the ILC project in Japan
- The progress with scientists created an environment to move to the next level with discussions at the level of the government and politics
- At this stage seeks political leadership to further the ILC project in Japan
- Inter-ministry dialogues will be at the basis to establish the budget
- Considers the move to multilateral discussions among international partners as very important
- Mentions the Olympic Games in Japan in 2020, and the ILC project as the next major project for Japan



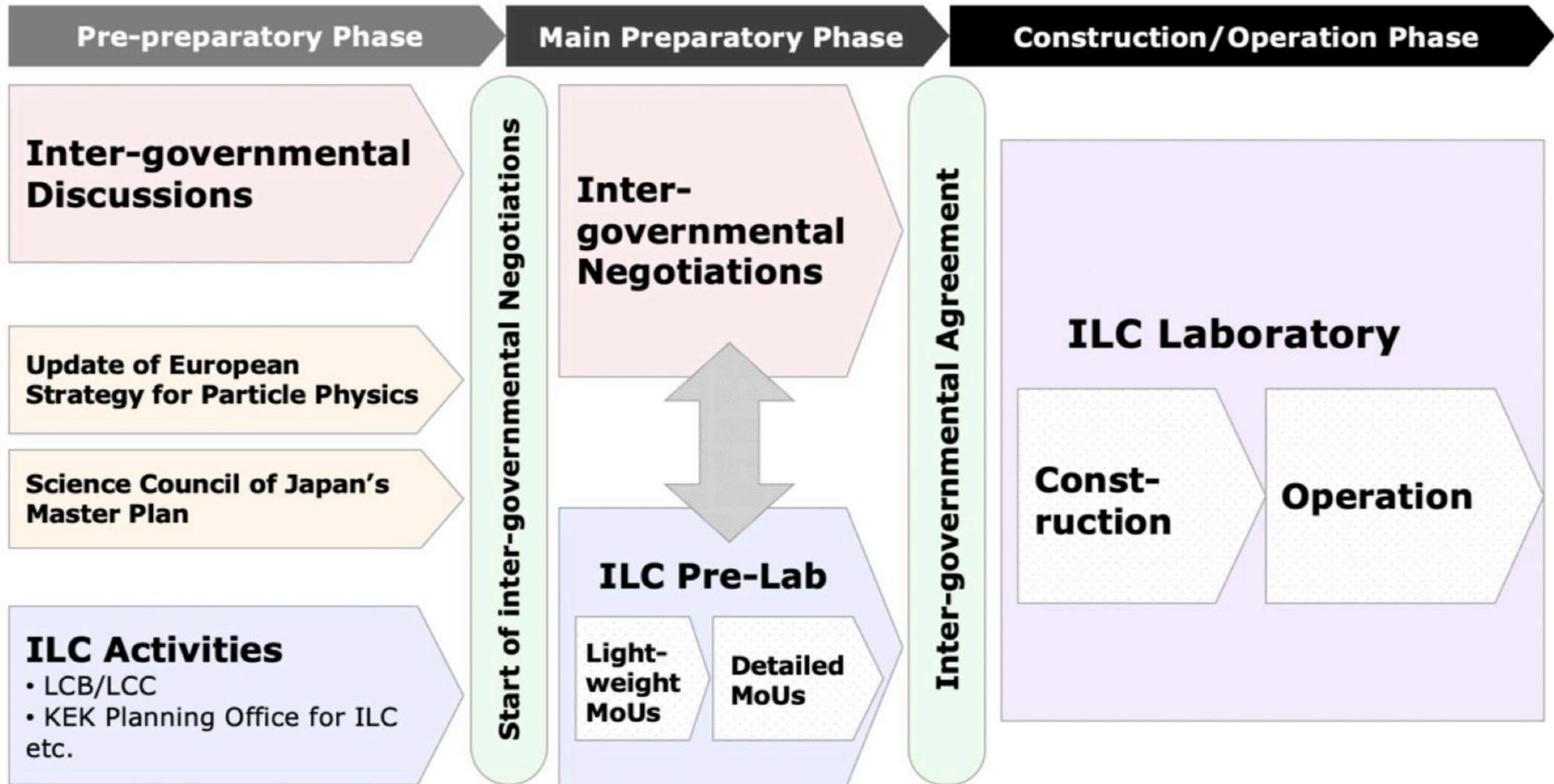
Report from International Working Group on the ILC Project

(initiated by KEK Director-General in May 2019 to study the international aspects)

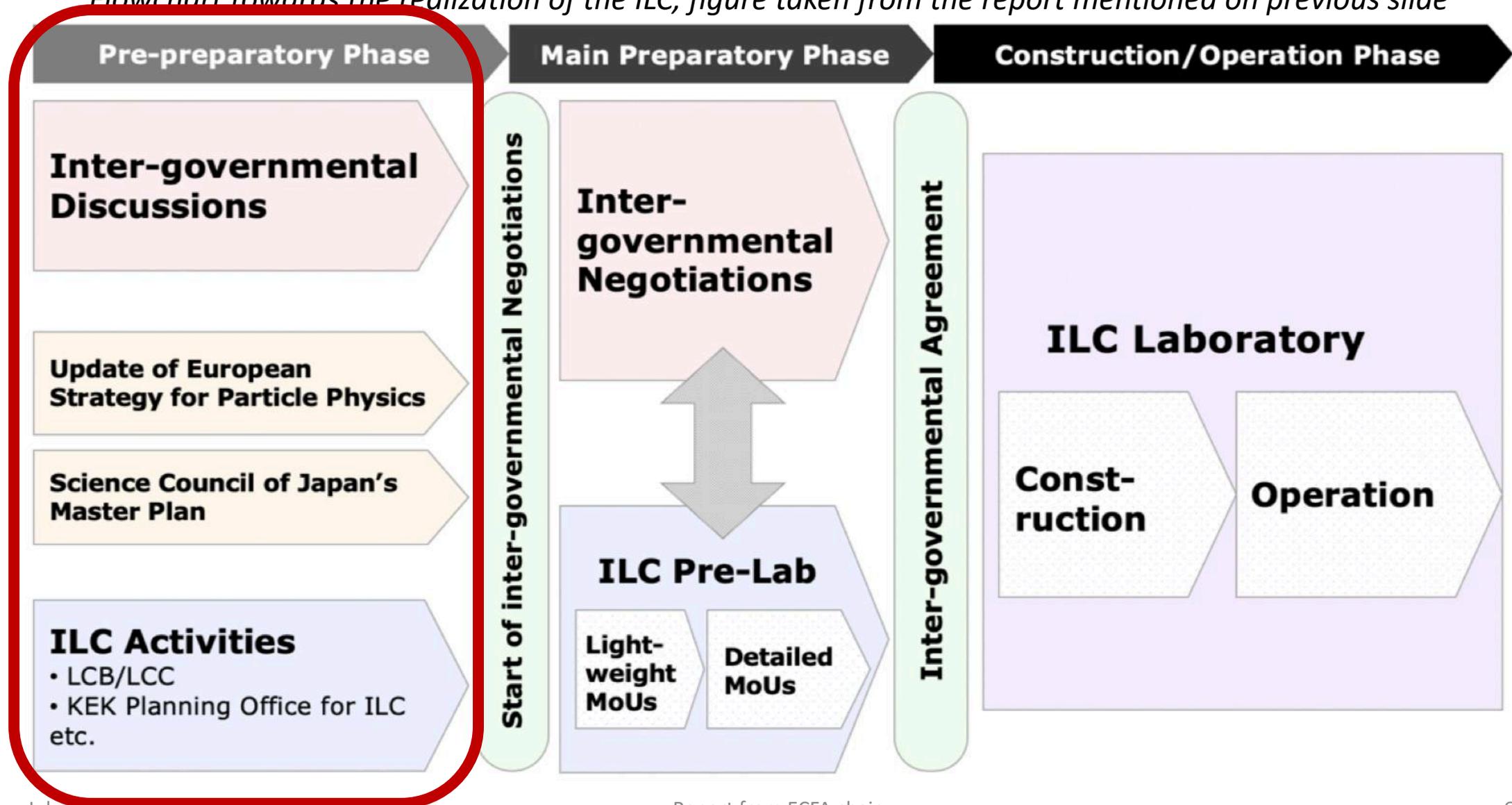
https://www2.kek.jp/ilc/en/docs/Recommendations_on_ILC_Project_Implementation.pdf

- Including thoughts on cost sharing
- ILC pre-preparatory phase: currently the project is in a pre-preparatory phase
- ILC preparatory phase: A positive signal by the Japanese government expressing its intent to host the ILC as part of the critical decision process will trigger the project transition into the main preparatory phase, which is expected to complete in about four years. The key activities in the main preparatory phase will be the technical preparations for ILC construction and the inter-governmental negotiations expected to culminate in an inter-governmental agreement, signaling the official launch of the ILC project.
- ILC construction phase: the above agreement will trigger the transition of the Pre-Lab structure into a full ILC Laboratory, which will mark the start of the construction phase of the ILC project

Flowchart towards the realization of the ILC, figure taken from the report mentioned on previous slide



Flowchart towards the realization of the ILC, figure taken from the report mentioned on previous slide



ICFA Statement on the ILC project – SLAC 22 February 2020

https://icfa.fnal.gov/wp-content/uploads/ICFA_Statement_22Feb2020.pdf

ICFA was encouraged by the reports from Mr. H. Masuko, Deputy-Director General, MEXT Research Promotion Bureau and Hon. T. Kawamura, Chairperson of the Federation of Diet Members for the ILC, at the ICFA meeting held at the SLAC National Accelerator Laboratory, Stanford, USA, on the 20th February 2020.

Based on these reports:

- ICFA reconfirms the international consensus for a Higgs factory and wishes to see the timely construction of the ILC in Japan.
- ICFA acknowledges and welcomes the inter-governmental discussion between Japan, the United States and European nations, to advance international collaborative activities for the ILC.
- ICFA notes the need for a preparatory phase ahead of the establishment of the ILC laboratory and the construction of the ILC in Japan.
- **ICFA advocates establishment of an international development team to facilitate transition into the preparatory phase.**
 - The development team should be hosted by KEK, with leadership chosen with the help of ICFA.
 - The team would **develop a plan for the preparatory phase** for the construction of the ILC, including technical, organizational and governance issues. It also would be tasked with understanding the activities and resources required in the preparatory phase. The process of developing the plan **should involve the interested laboratories and community**.
 - ICFA anticipates that these development activities could be **completed in approximately one year**, at which point it would be possible to launch the preparatory phase for the ILC, provided Japan expresses intent to do so together with international partners.
- In view of progress towards realisation of the ILC in Japan, ICFA encourages the interested members of the high energy physics community, laboratories, and nations, to support and participate in these preparations aimed at the successful establishment of the ILC.

ICFA Statement on the ILC project – SLAC 22 February 2020

https://icfa.fnal.gov/wp-content/uploads/ICFA_Statement_22Feb2020.pdf

ICFA instructed the LCB to propose by May 2020 the mandate, the activities and the composition of the development team which is to replace the LCB structure, i.e. the mandate of the LCB itself ends in June 2020. The new focus will be on the ILC project.

- ICFA reconfirms the international consensus for a Higgs factory and wishes to see the timely construction of the ILC in Japan.
- ICFA acknowledges and welcomes the inter-governmental discussion between Japan, the United States and European nations, to advance international collaborative activities for the ILC.
- ICFA notes the need for a preparatory phase ahead of the establishment of the ILC laboratory and the construction of the ILC in Japan.
- **ICFA advocates establishment of an international development team to facilitate transition into the preparatory phase.**
 - The development team should be hosted by KEK, with leadership chosen with the help of ICFA.
 - The team would **develop a plan for the preparatory phase** for the construction of the ILC, including technical, organizational and governance issues. It also would be tasked with understanding the activities and resources required in the preparatory phase. The process of developing the plan **should involve the interested laboratories and community**.
 - ICFA anticipates that these development activities could be **completed in approximately one year**, at which point it would be possible to launch the preparatory phase for the ILC, provided Japan expresses intent to do so together with international partners.
- In view of progress towards realisation of the ILC in Japan, ICFA encourages the interested members of the high energy physics community, laboratories, and nations, to support and participate in these preparations aimed at the successful establishment of the ILC.