ECFA

European Committee for Future Accelerators

Report from ECFA

(https://ecfa.web.cern.ch)

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

SPC meeting, September 23-24th, 2019, CERN

PECFA and RECFA meetings since Sept 2018

***PECFA meeting at CERN**, Nov 2018, https://indico.cern.ch/event/759130/*
(ECFA Newsletter #2, 24 pages:
https://ecfa.web.cern.ch/sites/ecfa.web.cern.ch/files/ECFA-Newsletter-2-Winter2018-final.pdf)

***Joint ECFA-EPS session during the EPS-HEPP conference (Belgium),** July 2019,*
https://indico.cern.ch/event/845382/
(ECFA Newsletter #3, 16 pages:
https://cds.cern.ch/record/2688156/files/ECFA-Newsletter-3-Summer2019-final.pdf)

***Four RECFA visits**: the Netherlands, Spain, Slovenia, Poland*

RECFA visits to countries

Following the visits, recommendations are formulated in letters from ECFA to the policy makers in the country. They are available on the ECFA website (https://ecfa.web.cern.ch/content/letters-member-states). New since 2018 is that an executive summary complements the typical letter where we elaborate. For the last four country visits the executive summaries are shown on the next slides.

RECFA visit to the Netherlands – October 2018

(https://indico.cern.ch/event/753418/)


Ministerie van Onderwijs, Cultuur en Wetenschap

>Return adress P.O. Box 16375 2500 BJ Den Haag

CERN
Professor J. D'Hondt
Chairperson of EFCA
CH - 1211
Geneva 23
Switzerland
Email: Jorgen.DHondt@cern.ch

Rijnstraat 50
Den Haag
Postbus 16375
2500 BJ Den Haag
www.rijksoverheid.nl

Contact
T.J. Zwijnenburg

T +31 6 46 84 93 50
tobias.zwijnenburg@minocw.nl

Reference
116641

Your letter of

Date 15 MEI 2019
Subject 2018 RECFA visit to the Netherlands

Reply from Minister

...I want to thank you for the time and ef... the assessment of the Dutch particle physics and rel... I was delighted to read about the high quality of the activities of the particle physics community in the Netherlands. Your recommendations, among others, will be taken into account when it comes to future decision making at a national level.
I am glad to hear that NIKHEF is one of the strongest particle and astroparticle physics institutes in Europe, in terms of excellence and organisation model. I congratulate NIKHEF and the Dutch particle physics and related disciplines community with the results, and I thank you for the work you have done in this assessment.

Yours sincerely,

The Minister of Education, Culture and Science,

Ingrid van Engelshoven

- Dutch involvement in high-energy physics via NIKHEF, which is one of the strongest particle and astroparticle physics institutes in Europe, is an exemplary model that merges a national laboratory with universities.
- The education system is very impressive and clearly a source of great motivation for PhD students.
- To remain at the forefront in Europe, we encourage NIKHEF to sustain its mission for a strong R&D component in instrumentation, to foster a sense of innovation and to prepare, in a timely fashion, its workshops for the future beyond the already foreseen projects.
- At the same time, we look forward to a strong signal being sent by the funding authorities about their willingness to embrace the upgrade vision for the data center supporting particle physics and other research fields.
- The committee appreciated the creation of an internal advisory board linking particle physics, astroparticle physics and astronomy in the Netherlands.

RECFA visit to Spain – March 2019

(https://indico.cern.ch/event/790274/)

- With about 1000 researchers, Spain is a stronghold of high-energy physics in Europe, and it gave the Committee great pleasure to note the community's strong scientific ambition.
- On the international level, the Committee underlines its appreciation of the researchers from Spanish institutions who are involved in the LHC experiments, namely ATLAS, CMS and LHCb.
- We appreciate the recent efforts by the Spanish government to establish a budget line for the annual construction and operation costs of the LHC experiments mentioned in the MoUs, allowing long-term planning for Spain's participation in large research infrastructures.
- National networks enhance Spain's research, but the funding for these networks has reached a critical level and the budget should at least be maintained.
- Several excellent accelerator facilities serving applications in academia and industry are in operation in Spain, and the related accelerator R&D projects have a major impact in the field as a whole.
- The majority of engineers and researchers in detector R&D and construction are hired on project-based budgets, which the Committee perceives as a weakness in the system that needs to be corrected in order to sustain the leading position of Spanish groups in this technology-oriented field.
- We applaud Spain's efforts to make CERN attractive for industry, as well as its plans to further strengthen the industry liaison system.

RECFA visit to Slovenia – April 2019

(https://indico.cern.ch/event/800978/)

- The strategic focus on the ATLAS and Belle2 experiments has resulted in a high level of visibility for the Slovenian particle physics research groups.
- The Committee strongly appreciates the efforts by the funding bodies to maintain an adequate budget supporting long-term engagement in high-energy physics experiments, and especially to secure the necessary funding for the upcoming upgrade of the ATLAS detector at CERN.
- The continuous exploration of synergies between the research interests of the Slovenian theoretical and experimental groups in high-energy physics is excellent, and such collaborations should be supported.
- The Slovenian groups working in detector R&D are to be commended for their strong ambition and experience, but the overall lack of technical support for high-energy physics research needs to be addressed.
- Thanks to its standards of excellence, the computing team is deeply involved in both international and Slovenian computing developments, which should result in a leading role for them when the planned High-Performance Computing resources are deployed in Slovenia.
- The Committee is of the opinion that, given the strength of the research groups, more PhD students can be trained in experimental particle physics, assuming that additional funding can be allocated to this.
- The Committee recommends that the Ministry sustain the excellent level of participation in the Slovenian teachers programme at CERN.

RECFA visit to Poland – May 2019

(https://indico.cern.ch/event/813051/)

- We congratulate the Ministry for making funding towards the LHC experiments at CERN possible, particularly outside a competitive grant system and while keeping an eye on the remaining budget requests for the LHC detector upgrades.
- Although the Polish groups at the LHC experiments are a minority in the country's particle physics landscape, they excel in all aspects of the experiments, making contributions to both hardware and software developments, as well as to physics analyses.
- Updating the Polish roadmap for research infrastructures provides an opportunity to streamline investments: a meaningful dialogue with the research community on reforming the science and higher education system could mitigate the currently perceived high level of insecurity when it comes to planning the typically long-term projects in particle physics.
- In addition to the ample opportunities for collaboration on an international level, Polish particle physicists could be encouraged to apply in a concerted way for grants, in order to enhance domestic collaboration.
- Developing a clear funding path for pure detector R&D projects is essential.
- The Polish system of Industry Liaison Officers is well organised, with two-way communication between companies and researchers, and they are demonstrably ready to pursue their ambition to organise the 2022 Big Science Business Forum in Poland.
- A more profound integration of particle physics topics into the curricula of Bachelor's education could attract more Master's students, ultimately enabling Polish research groups in particle physics to take on more PhD students.

Planned PECFA and RECFA meetings

***Plenary ECFA meeting at CERN**, 14-15 Nov 2019, https://indico.cern.ch/event/847002/overview*
Open meeting: full day on "Advanced Accelerator Technologies": HTS magnets, plasma, muon
On invitation: full day for early-career researchers to debate on the European Strategy
For ECFA members: session on regular ECFA topics

***Plenary ECFA meeting at JINR/Dubna (Russia),** 13-14 July 2020*

***Four RECFA visits**: Cyprus (Oct 2019), Serbia, Ukraine, France, Denmark*

ECFA Working Groups

ECFA Working Groups, some examples

- **Detector R&D Panel** (chair: Phil Allport): conducted a community wide survey, reported in ECFA Newsletter #3 and during the ECFA-EPS session
  (link https://indico.cern.ch/event/845382/contributions/3550294/attachments/1900882/3137745/A_Cattai.pdf)
- **Recognition of individual achievements in large collaborations**: ECFA delivered the results of a wide survey (see back-up slides) and initiates a new joint ApPEC-ECFA-NuPECC working group with the intention to bring together the collaborations on the topic
- **Higgs at Future Colliders** (chair: Aleandro Nisati): compare the expected performance of future colliders in the field of Higgs physics as input to the strategy discussions (report is available via http://arxiv.org/abs/arXiv:1905.03764 , soon the final update)
- **Diversity**: ApPEC, ECFA and NuPECC joined to propose a Diversity Charter to be signed by research organisations, collaborations and conferences who value diversity and commit to promote equal opportunities at all levels, to be launched at the JENAS event and will be linked to the ECFA website
- **Joint ApPEC-ECFA-NuPECC seminar**: launched to seek synergies among our fields

ApPEC-ECFA-NuPECC – Joint Seminar
(https://jenas-2019.lal.in2p3.fr)

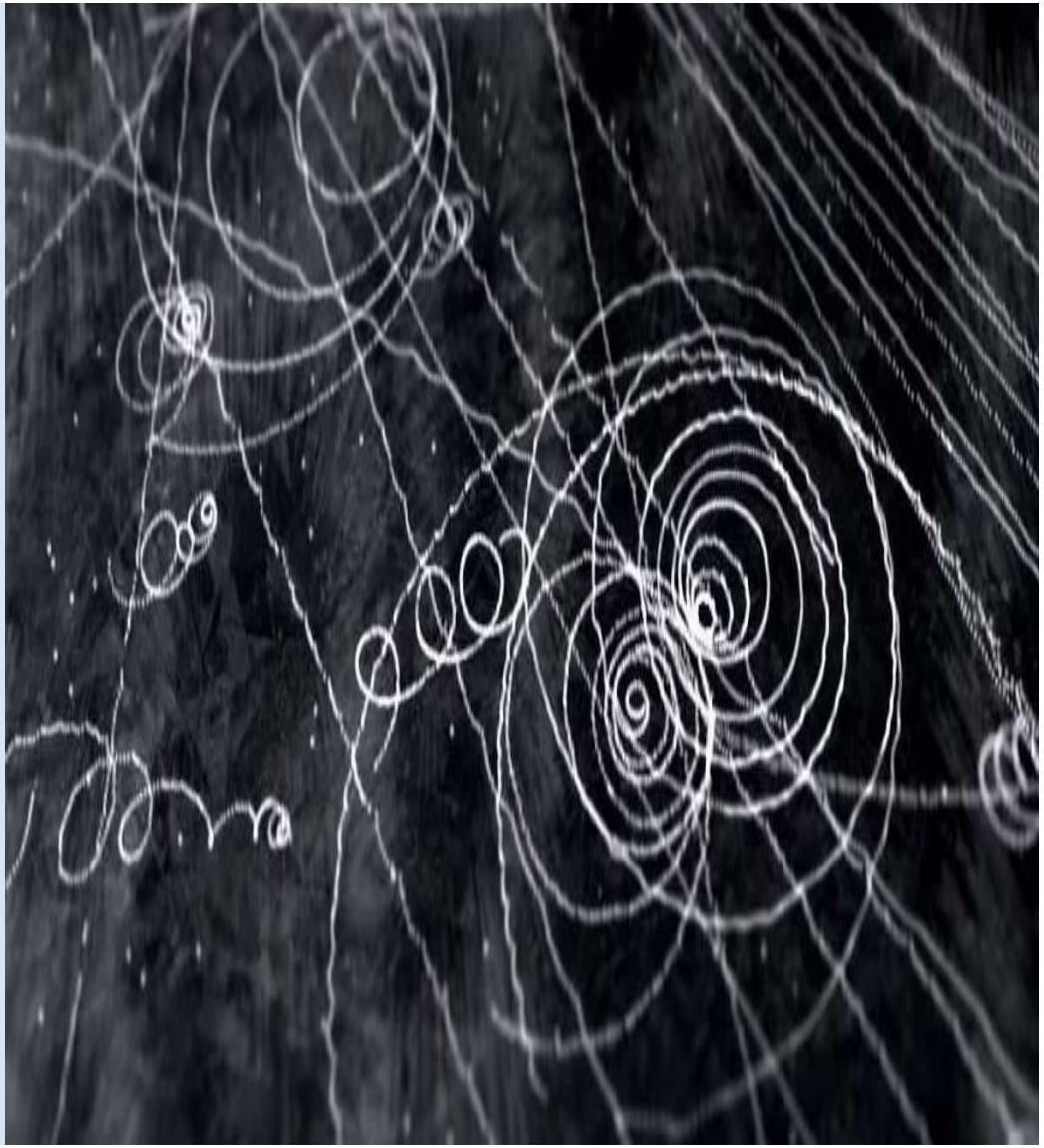
- Opportunity to explore synergies between astroparticle, particle and nuclear physics
- The first in a series of three-day seminars that will be held every three years
- ApPEC, ECFA and NuPECC members are invited and additionally nominations for early career researchers have been collected, thereafter the registration was open to the community at large
- We reached the capacity of the auditorium with around 225 participants at this stage, including early-career researchers… webcast will be available

ECFA participation (via ECFA chair), some examples

- In the International Workshop on Future Linear Colliders at the University of Texas (US) on 22-26 October 2018, https://agenda.linearcollider.org/event/7889/
- In the fifth Annual Meeting of the Future Circular Collider Study in Brussels (Belgium) on 24-28 June 2019, https://indico.cern.ch/event/727555/
- In meetings of ApPEC (http://www.appec.org) and NuPECC (http://www.nupecc.org)
- Muon Collider workshop at CERN on 10-11 April 2019, https://indico.cern.ch/event/801616/
- ICFA (and LCB) meetings

Muon Collider – Preparatory meeting
10-11 April 2019, CERN
(https://indico.cern.ch/event/801616/)

- Main document: arXiv:1901.6150
- The meeting addressed the new ideas and results achieved on physics, detector and machine.
- Experts discussed the physics benchmarks, the detector simulation, machine design and the technology issues towards a R&D plan.
- A strategy plan with a view on a presentation at the Open Symposium in Granada.



News from ICFA, especially on the ILC project

Report from ICFA

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

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

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

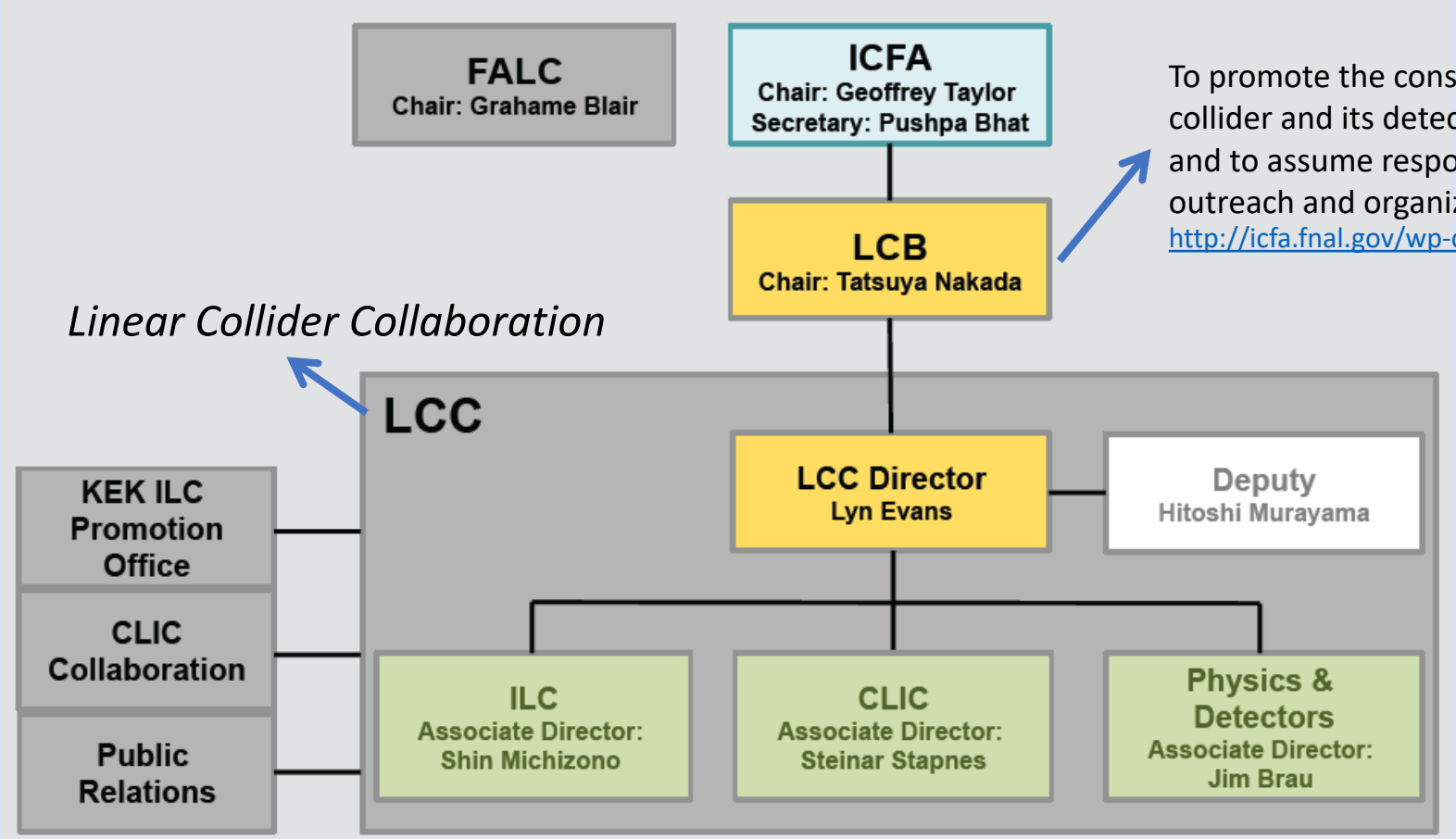
Current panels:

- 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/LCB: 83rd meeting 7-8 March (Tokyo) and 84th meeting 7 Aug (Toronto)

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

Joined meeting with the Linear Collider Board (LCB, http://icfa.fnal.gov/panels/linear-collider-board/)



To promote the construction of an electron-positron linear collider and its detectors as a world-wide collaborative project, and to assume responsibility for the science, technology, outreach and organization in pursuit of the linear collider project
http://icfa.fnal.gov/wp-content/uploads/LCB-Mandate-2016.pdf

ICFA meeting, Tokyo, 6-8 March 2019

- We were informed about the position of MEXT on the ILC project in Japan. We heard as well as a speech from Hon. Kawamura from the Federation of Diet Members for the ILC.
  https://www.kek.jp/en/newsroom/2019/03/13/2100/
- In response, below a link to the ICFA statement on the MEXT's view
  https://icfa.fnal.gov/wp-content/uploads/ICFA_Tokyo_Statement_March2019.pdf
- And the letter from the Linear Collider Board (LCB)
  https://icfa.fnal.gov/wp-content/uploads/LCB_letter_to_MEXT-signed.pdf
- These documents are public, and you can share these with your community.

Linear Collider Community meeting
8-9 April 2019, Lausanne
(https://indico.cern.ch/event/789524/)

- Three main objectives:
  - Initiate the formation of a strategy for future linear collider activities.
  - Discuss how to present the case for linear colliders at the Open Symposium in Granada.
  - Address the future organisation of the international linear collider activities beyond LCC.
- The meeting is arranged on the initiative of LCB/ICFA and is supported by ECFA.
- Conclusions at https://indico.cern.ch/event/789524/contributions/3380195/attachments/1826537/3016235/lc-strategy-May2019.pdf

ECFA communication

ECFA Newsletters #1 - #2 - #3

available on the ECFA website:

https://ecfa.web.cern.ch

- Facilitate ECFA members to inform their communities with a brief and comprehensive ECFA newsletter
- It summarizes Plenary ECFA meetings and include relevant announcements
- Is available only digitally as a PDF document
- Register yourself to receive an email twice a year with the new ECFA Newsletters, under "Members" via the following link:

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

- Copies available at the secretary desk of this meeting

ECFA Newsletters #1 - #2 - #3

available on the ECFA website:

https://ecfa.web.cern.ch

On behalf of ECFA we sincerely thank the CERN Council secretariat and the CERN Minutes and Translation service teams for their continuous support

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THANK YOU FOR YOUR ATTENTION

End

ApPEC-ECFA-NuPECC Working Group

Recognition of individual achievements in large collaborations

– Collection of Information –

Previous actions by ECFA in 2018
Collection of Information

ECFA Working group on Recognition of Individual achievements in collaborations

- The success of our field depends on our strength to attract the most talented researchers (physicists and engineers), in our ability to foster them and our ability to provide them with sufficient and adequate career opportunities.

- We acknowledge the importance of correctly recognising individual achievements and affirm the challenges therein when dealing with scientific collaborations of between one hundred and many thousands of researchers.

ECFA Working group on Recognition of Individual achievements in collaborations

- Within the role and responsibility of ECFA, in 2018, a working group verified the current status of the recognition of individual achievements in large collaborations, amongst others to inform the discussions of updating the European Strategy for Particle Physics.
  - *Members: Antonio Zoccoli, Dave Milstead, Peter Schleper, Roger Forty, Stan Bentvelsen, ECFA chair (Jorgen D'Hondt) and scientific secretary (Calin Alexa, Carlos Lacasta)*

- At the Plenary ECFA meeting at ALBA (Spain) of July 2018, we heard about the outcomes of a survey of the leaders of 29 CERN-based or CERN-recognised experiments in particle, nuclear, astroparticle and astro- physics.

- Encouragingly, the leaders of these collaborations declared our efforts to be highly appreciated, timely and welcome. Therefore, we were convinced that the community is open-minded, ready for a profound dialogue on the topic and receptive to recommendations.

ECFA Working group on Recognition of Individual achievements in collaborations

- Following this first survey, the working group reported on the replies received from the collaboration leaders (PECFA July 2018): https://indico.cern.ch/event/730568/contributions/3065819/attachments/1690175/2719327/PECFA-Presentation-Recognition-20July2018.pdf
- The ECFA working group reported in the ECFA Newsletter #1: https://ecfa.web.cern.ch/content/ecfa-newsletters
- Together with input from young scientists and young scientist communities, this informed the working group towards the implementation of a community-wide survey.

ECFA Working group on Recognition of Individual achievements in collaborations

- In Oct-Nov 2018, ECFA launched a community-wide survey to verify the current status of the recognition of individual achievements. Taking into account the 1355 participants to the survey, the results are reported in a dedicated document: https://ecfa.web.cern.ch/sites/ecfa.web.cern.ch/files/ECFA-Survey-Recognition-Results.pdf

ECFA Working group on Recognition of Individual achievements in collaborations

- A presentation informed Plenary ECFA during its open meeting (Nov 2018): https://indico.cern.ch/event/759130/contributions/3148323/attachments/1753311/2841691/SurveyPresentationSB.pdf and the video recordings https://cds.cern.ch/record/2647802
- At the same meeting, the presentation informed a debate on the topic (Rebeca Gonzalez Suarez (Uppsala University), Max Klein (University of Liverpool), Marek Lewitowicz (GANIL), Marcel Merk (NIKHEF) and Ulrike Schnoor (CERN)), video recordings are available at https://indico.cern.ch/event/759130/timetable/?view=standard
- ECFA reported on these results in the ECFA Newsletter #2 (p10-11): https://cds.cern.ch/record/2648476/files/ECFA-Newsletter-1-Summer2018.pdf
- CERN Courier article: https://cerncourier.com/standing-out-from-the-crowd/

Next steps jointly with ApPEC, ECFA and NuPECC

Next steps agreed in ApPEC, ECFA and NuPECC

- In a next step we will create together a new working group with representatives from all interested scientific collaborations in astroparticle physics, particle physics and nuclear physics

- Key objectives within an advisory and exploratory mandate of the working group:
  - exchange and discuss best practices, and reflect on alternative or additional procedures
  - potentially perform a second survey in 2020-2021 to monitor the progress on the topic
  - however, the group will not be an ombudscommittee for individual problems

- The working group should openly communicate about its activities to the community at large

- The collaborations remain themselves responsible for the actions of the working group and to implement (or not) recommendations; ApPEC-ECFA-NuPECC will be there to facilitate, to invite the collaborations, to draft the initial mandate and to assign (co-)chair(s)

ApPEC-ECFA-NuPECC Working Group members

ApPEC

- Karl-Heinz Kampert (kampert@uni-wuppertal.de), co-chair
- Emmanuel Gangler (emmanuel.gangler@clermont.in2p3.fr)

ECFA

- Bogna Kubik (bkubik@ipnl.in2p3.fr)
- Djamel Boumediene (Djamel.Boumediene@cern.ch)
- Marcel Merk (marcel.merk@nikhef.nl), co-chair

NuPECC

- Eberhard Widman (Eberhard.Widmann@oeaw.ac.at), co-chair
- Gerda Neyens (Gerda.neyens@cern.ch)
- Nasser Kalantar (nasser@kvi.nl)

A combined ApPEC-ECFA-NuPECC initiative

- Invitation letter are prepared on behalf of ApPEC-ECFA-NuPECC to collaborations

- Initial list of collaborations to invite:
  - A profile of collaborations that are addressed takes into account several aspects, of which the number of participating researchers, institutes and countries are only few
  - CERN experiments: https://home.cern/science/experiments
  - Recognized experiments: http://committees.web.cern.ch/committees/rec/list.html
  - Initial input from ApPEC, ECFA and NuPECC
  - Other European collaborations, or collaborations with a strong European involvement

Initial list of collaborations

AEGIS, ALICE, ALPHA, AMS, ANTARES, ASACUSA, ATLAS, ATRAP, Auger, AWAKE, BELLE II, Borexino, CALET, CAST, CBM, CLOUD, CMS, COMPASS, CREAM, CTA, DAMIC, Darwin, DIRAC, DUNE, EDELWEISS, EUCLID, Fermi, GANIL, GERDA, IceCube, ISOLDE, JUNO, Katrin, KM3NET, LEGEND, LHCb, LIGO, LISA, MAGIC, NA61/SHINE, NA62, NEXT, nTOF, NUSTAR, Pamela, PANDA, SNO+, T2K, VIRGO, XENON

Need to verify if all above collaborations fit the profile
Surely, upon request other large collaborations might be able to join