

Summary on ECFA activities, M.Seidel (PSI/EPFL)

organisation:

ECFA chair since 1/2021: Karl Jakobs (Uni Freiburg/DE),
scientific secretary: Patricia Conde Muíño (Uni Lisboa) endorsed on May 28

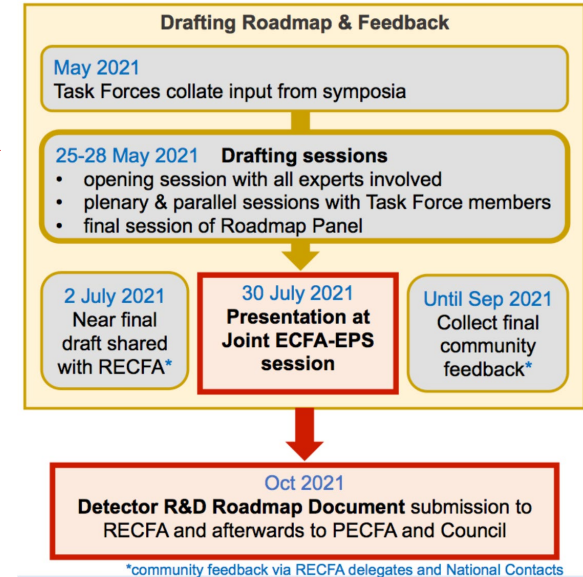
major ongoing activities:

- **Detector R&D Roadmap Process** (CH contact B.Kilminster Uni ZH) →
- **Accelerator Roadmap Process** (LDG, D.Newbold, STFC)
subgroups: High-Field Magnets (LTS, HTS), High-gradient acceleration (plasma / laser),
high-gradient RF structures, muon beams, energy recovery linacs
- **Diversity Charter** (P.C.Muíño, Lisboa) → survey process launched
- **Early Career Researchers Panel** established: <https://ecfa.web.cern.ch/ecfa-early-career-researchers-panel>,
(ECR CH: A.Fehr, S.Schramm, M.Zeyen)
- **country visits**: will be resumed after pandemic with France/Sept, Serbia/Oct,
Denmark/Nov

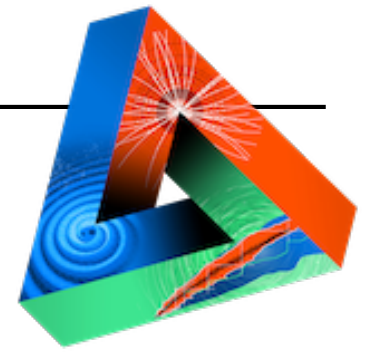
upcoming events:

- Plenary ECFA meeting, **July 23, Zoom**
- ECFA/EPS Session, **July 30, Zoom**
- RECFA + PECFA meeting at **CERN, Nov 18 - 19**
- 2nd JENAS will take place in **Madrid in 2022, 3 – 6 May**

→ more details in following slide selection of ECFA meeting on May 28



Joint ECFA-NuPECC-APPEC Activities (JENAA)



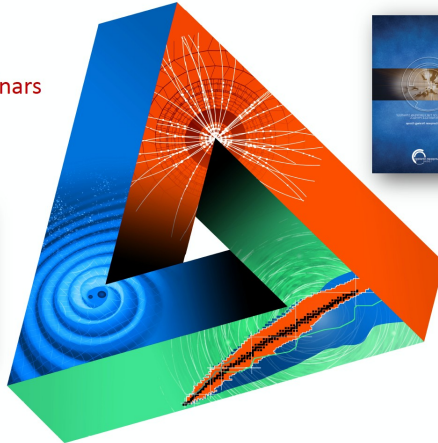
- Five [Expressions of Interest](#) for common activities endorsed:
 - *Dark Matter (iDMEu)*
 - *Machine-learning Optimized Design of Experiments (MODE)*
 - *Gravitational Waves for fundamental physics*
 - *Nuclear Physics at the LHC*
 - *Storage Rings for the Search of Charged-Particle Electric Dipole Moments*
- All these activities have held their first meetings to present and discuss their Expressions of Interest and to make first steps towards implementation of the common activities in autumn last year (more information is available [here](#)).
- Community-at-large has been informed (see email from 27th April 2021)
- iDMEu: larger kick-off meeting took place 10 – 12 May 2021 <https://indico.cern.ch/event/1016060/>
MODE: first meeting planned for 6 – 8 Sept 2021 in Louvain / Belgium
<https://mode-collaboration.github.io/workshop/index.html>
Gravitational waves: not as advanced yet, further meetings to be announced
→ it would be good if (R)ECFA members would encourage and support next steps
Charged Particle EDM: well organised from Nuclear Physics side; so far only few institutes from ECFA involved

[Karl Jakobs, ECFA Chair]

Next JENA Seminar in Madrid 2022

Exploring and strengthening synergies

Initiated a series of
Joint ECFA-NuPECC-APPEC Seminars
(JENAS)



ECFA: European Committee for Future Accelerators
NuPECC: Nuclear Physics European Collaboration Committee
APPEC: Astroparticle Physics European Consortium

2nd JENAS will take place in Madrid in 2022 (3 – 6 May 2022); Please mark your calendar

- First meeting between APPEC, NuPECC and ECFA Chairs and the local organisers took place on 20th May 21)
- Working on agenda: Reports of five JENA Activities, other common topics;

Should a session with representatives from Funding Agencies be introduced?
(needs careful thinking and planning; thoughts from your side are welcome!)

[Karl Jakobs, ECFA Chair]

Interactions with Early Career Researchers (ECR) Panel

- ECR Panel established: <https://ecfa.web.cern.ch/ecfa-early-career-researchers-panel>
- So far two meetings took place (11th Jan. and 18th March)
- Next meeting between PECFA delegates and ECFA Chair + Secretary on 15th July
 - Discussion on issues brought forward by ECR
 - Follow-up on recognition in large experiments (activities of working group stimulated again);
Next meeting on Thursday, 3rd June
 - Engagement in ongoing ECFA initiatives
(ECR have provided very valuable input to the Detector R&D roadmap process, in particular on training, long timescales, tenured positions in detector R&D)
 - ...

[Karl Jakobs, ECFA Chair]

Physics, Experiments and Detectors at a Higgs Factory

- Planning has been discussed by email;
Unanimous endorsement of program and conveners by 23 / 27 RECFA delegates (all who have replied)
- Email to inform the community sent on 7th May

WG 1: Physics Potential

Conveners: Juan Alcaraz (CIEMAT - Madrid), Jenny List (DESY), Fabio Maltoni (UC Louvain / Bologna) and James Wells (Univ. Michigan)

WG 2: Physics Analysis Methods

Conveners: Patrizia Azzi (INFN-Padova / CERN), Fulvio Piccinini (INFN Pavia) and Dirk Zerwas (IJCLab)

WG 3: Detector R&D

- While the first two working groups will begin their work now, the third one will be convened and start its activities after finalisation of the [ECFA Detector R&D Roadmap](#) .

[Karl Jakobs, ECFA Chair]

ECFA Schedule 2021

- **RECFA Country visits:** Given the good progress with the vaccination campaign, we still plan to stick to the scheduled visits between September and November 2021

Present planning:

France: 10/11 Sept. 2021

Serbia: 8 / 9 Oct. 2021

Denmark: 5 / 6 Nov 2021

→ this meeting likely needs to be moved

(a week earlier, i.e. 29 / 30 Oct. 2021, might be a possibility)

EPS Conference (online, 26 – 30 July 2021; incl. RECFA + PECFA meetings)

~~ICFA seminar in Berlin: 4 – 7 October 2021 (t.b.c.)~~ moved to 2022

Further RECFA and PECFA meetings:

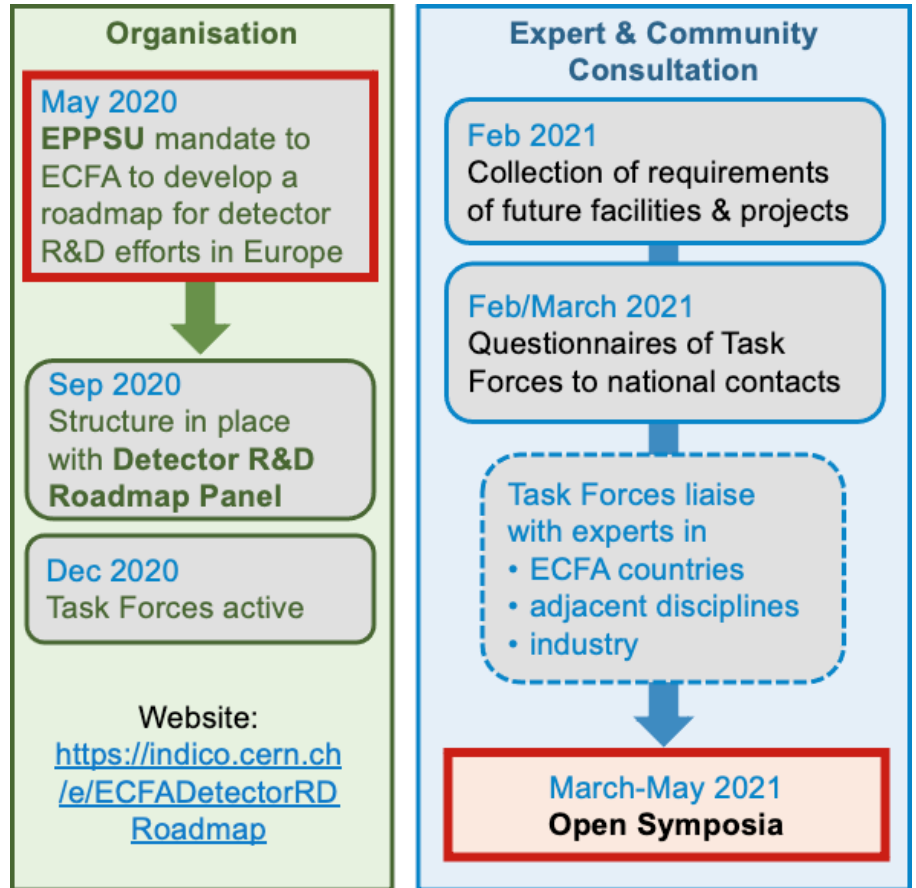
- RECFA + PECFA meeting online: **23 July (online) 9:00 – 11:00 am RECFA, 14:00 – 16:00 PECFA**

- RECFA + PECFA meeting at CERN: **18 - 19 Nov**

[Karl Jakobs, ECFA Chair]

Summary of Detector R&D Roadmap Process

- Process in full swing!
Huge Thanks to **Phil Allport** and **Susanne Kühn** for the excellent organisation and running of the process, as well as to all members of the Roadmap Panel and Task Forces for the work done over the past months!
- At the end of the Expert and Community Consultation phase;
- All **Open Symposia** took place between 27th March and 7th May
<https://indico.cern.ch/event/957057/program>
- In total 1366 registered participants
- “Most popular” sessions:
TF3 (Solid state det.) (504 participants, 275 concurrent views)
TF7 (Electronics) (492 participants, 353 concurrent views)
- Registration will be used to get future updates (asked for consent of people)
<https://indico.cern.ch/event/957057/registrations/70781/>



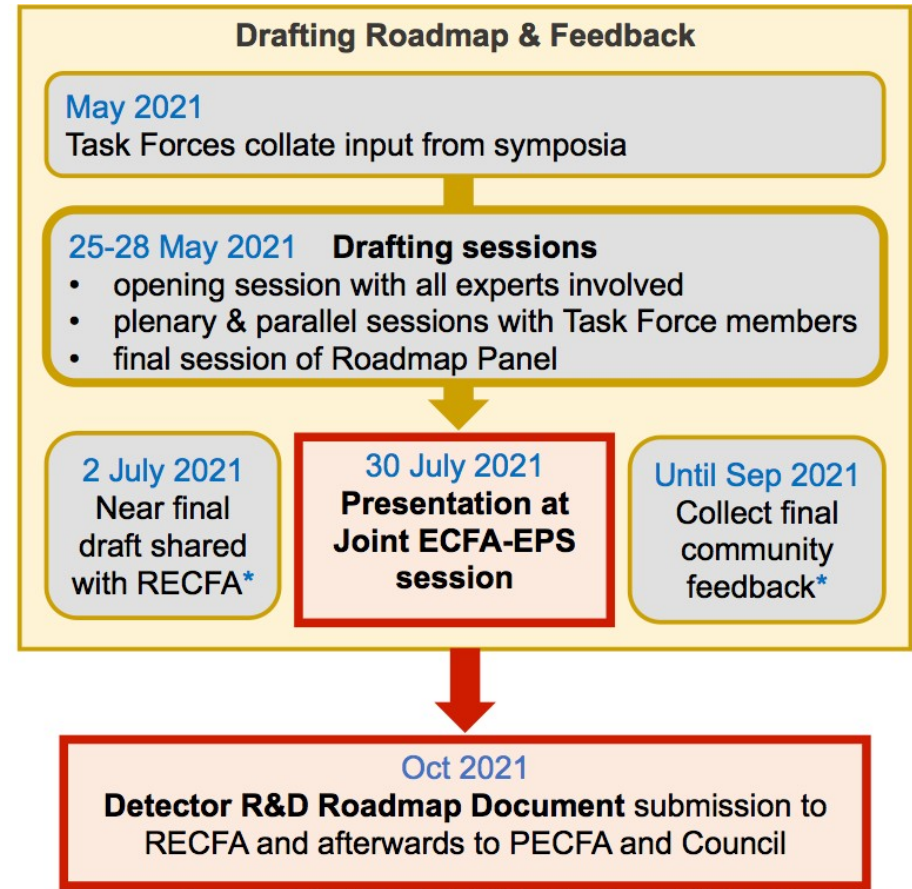
[Karl Jakobs, ECFA Chair]

Summary of Detector R&D Roadmap Process (cont.)

- Since this is an ECFA document, it is important to involve the (R)ECFA members
- Following our discussion in the last RECFA meeting, the Roadmap Panel has agreed that RECFA delegates together with the appointed National Contacts collect the feedback from their community

Probably the best way forward is to share the draft with the relevant detector experts in your country / lab

- RECFA delegates + National Contacts will collect and condense feedback → to RECFA (all)
(This includes as well APPEC and NuPECC)
- Evaluation and decision taking by a **RECFA Panel** together with delegates from Roadmap Panel (also important in case of conflicts between projects / countries)
- **Final discussion in dedicated RECFA meeting in July, followed by a report and discussion in a Plenary ECFA meeting**



*community feedback via RECFA delegates and National Contacts

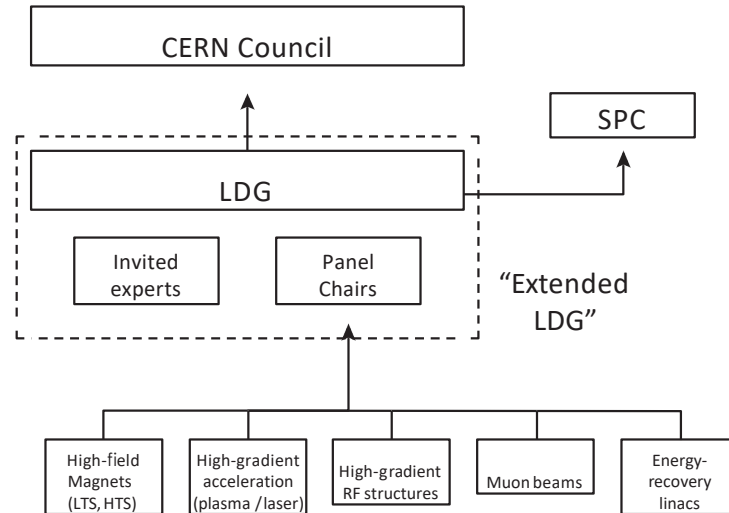
Accelerator Roadmap Process

▶ Five expert panels appointed:

- ▶ High-field magnets, including use of high-temperature superconductors
- ▶ High-gradient acceleration (plasma / laser)
- ▶ High-gradient RF structures and systems
- ▶ Bright muon beams and muon colliders
- ▶ Energy-recovery lilacs

▶ Panel chairs

- ▶ Magnets: P. Vedin (IRFU)
- ▶ Plasma: R. Assmann (DESY)
- ▶ RF: S. Bousson (IJCLab)
- ▶ Muons: D. Schulte (CERN)
- ▶ ERL: M. Klein (Liverpool)
- ▶ Diverse and international set of panel members



[D.Newbold, LDG Chair]

Roadmap Process

- ▶ Panel role:
 - ▶ Establish key R&D needs, as dictated by the scientific priorities
 - ▶ Consult widely with the European and international communities, taking into account the capabilities and interests of stakeholders
 - ▶ Take explicitly into account the plans and needs in related scientific fields
 - ▶ Propose ambitious but realistic objectives, work plans, and deliverables
 - ▶ Give options and scenarios for European investment and activity level
- ▶ Not in scope:
 - ▶ Planning for specific future facilities
 - ▶ Planning of funding routes, beyond the overall cost of the proposed R&D programme
 - ▶ Statements of institutional or national commitment.
- ▶ The roadmap will not recommend a specific balance of activities
 - ▶ It provides the 'evidence base' against which those decisions can be made
 - ▶ Also a backbone for formation / organisation of new coordinated RD activities

[D.Newbold, LDG Chair]

Status, Timeline and Outcome

- ▶ Process is now fully under way
 - ▶ Several panel meetings already, full open workshops being held
 - ▶ Key questions and issues now identified and prioritised
 - ▶ Processes for development of costed 5- / 10-year options now being developed
- ▶ Timeline
 - ▶ March Council: presentation of roadmap scope and process
 - ▶ June SPC: preview of final report structure, scope and style
 - ▶ June Council: final approval of LDG mandate and roadmap scope
 - ▶ **Early July: Open workshop for PP community to seek input / feedback**
 - ▶ Late July: July EPS-HEP: presentation in ECFA session of interim findings
 - ▶ Note : we will present findings only, not the roadmap planning itself
 - ▶ September Council: presentation of interim report (findings, but no planning)
 - ▶ September - October: 'closed' definition of draft roadmap and scoped plans
 - ▶ November: Review and feedback by SPC subcommittee - last chance to change
 - ▶ December Council: approval of the final roadmap
- ▶ Outcome
 - ▶ Public summary report covering findings plus a scoped roadmap
 - ▶ SPC / Council recommendations on priorities and next steps in the process

[D.Newbold, LDG Chair]

General LDG News

- ▶ Updated LDG mandate to be approved by June Council
- ▶ Some inputs from March Council
 - ▶ How to make sure the roadmap process is inclusive?
 - ▶ What is the relationship with national labs outside member states?
 - ▶ What is the role of European labs in 'related fields'? (FAIR, ESS, etc)
- ▶ Proposed approach(details under discussion)
 - ▶ Full breadth of the community represented by the DG and chair of ECFA
 - ▶ Labs in associated member states to be invited to participate (India...)
 - ▶ An LDG 'global workshop' once per year will be open to a larger group
 - ▶ Labs in CERN observer states: USA, Japan, Russia
 - ▶ Labs in 'related fields' with an overlap of interests
- ▶ We do not intend to dilute the current specific role of LDG
 - ▶ Discussions to be focussed around topics of direct interest to large laboratories
 - ▶ e.g. sustainability, training, maintaining engineering base, proposed infrastructures, etc

[D.Newbold, LDG Chair]

Status of the Diversity Charter

Diversity Charter distributed in summer to collaborations of APPEC/ECFA/NuPECC

- Few signatures collected
- Questions/issues related to data protection and the survey
- Concerns related ECFA authority to impose measures in case of imbalance

To ease concerns

- Divide the document in two: Diversity Charter + Diversity Monitoring

Contacted CERN Data Protection Office

- Decided to deal with private data
- Clarified the purpose, data protection, data safety, ... to be in agreement with EU laws