ECFA Chair Report

Plenary ECFA Meeting

Online, 12th July 2023

Karl Jakobs, ECFA Chair
University of Freiburg / Germany

ECFA

European Committee for Future Accelerators

Topics addressed

1. Brief update on Detector R&D Roadmap Implementation
2. Brief update on the ECFA e^+e^- Higgs/EW/Top factory studies
3. ECFA – EPS session at the 2023 EPS Conference
4. ICFA Seminar 2023 at DESY
5. Early Career Researcher Panel events
6. Recent News on ILC / ICFA
7. Joint ECFA-NuPECC-APPEC Activities
8. ECFA Schedule 2023 and 2024

1. Brief Update on the 2021 ECFA Detector R&D Roadmap

Q4 2022:	Detector R&D Roadmap Task Forces organise community meetings to establish the scope and scale of the community wishing to participate in the corresponding new DRD activities (✓)
Q1 2023:	DRDC mandate and composition defined by CERN management (lot of progress, but not yet completed)
	EDP mandate plus membership updated (✓)
Q1-Q2 2023:	Develop the new **DRD proposals** based on the detector roadmap and community interest in participation, including light-weight organisational structures and work plan for R&D programme to start in 2024
Q3 2023:	**Review of proposals by DRDC** leading to recommendations for formal establishment of the DRD collaborations
Q4 2023:	Discussion of approval by the CERN Research Board
Q1 2024:	New structures operational, ramp-up of resources throughout 2024 – 2025

Through 2023, mechanisms will need to be agreed with funding agencies in parallel to the process above for country-specific DRD collaboration funding requests for Strategic R&D and for developing the associated MoUs.

Present status:

- Lot of activities ongoing in the various **DRD areas** → more detailed report by Felix Sefkow

  - Most of them on track for proposal submission end of July

  - Exceptions:
    DRD7 (Electronics): * However, they will present a LoI
    * Interactions between DRD7 and other DRDs needs further discussions;
    Document prepared by DRD7 available and shared with the community;
    Additional meeting planned this month

    DRD5 (Quantum sensors, new tech.): will come later, particle-detector related focus topics to be defined, community to be built, and funding to be understood

    DRD4: had a late start, however, will try to stick to the July deadline

  - Guidelines for proposal writing have been defined by Phil Allport and Didier Contardo and meanwhile discussed as well with Thomas Bergauer, the newly appointed DRDC Chair

- **ECFA-LDG Working group** to address the GSRs has started its work, surveys launched

- **ECFA Training Panel**: first meeting held (needs follow up!)

ECFA Detector Panel (EDP):

The ECFA Detector Panel (EDP) is a subcommittee of ECFA, hosted at DESY

So far: a committee to review detector development efforts for future projects

http://cds.cern.ch/record/2211641/files

Mandate:

- Direct input on DRD proposals, through the appointment of members to the DRDC;
- Assists, particularly via topic-specific expert members, in the conduct of annual DRDC reviews;
- Monitors the overall implementation of the ECFA detector roadmap follows up targets and achievements in the light of evolving specifications from experiment concept groups, as well as proto-collaborations for future facilities
- Helps plan for future updates to the Detector R&D Roadmap.

Composition:

Co-Chairs: **Phil Allport (Birmingham)**
Didier Contardo (IP2I Lyon)

Scientific Secretary: Doris Eckstein (DESY)

Gaseous Detectors:	Silvia Dalla Torre (Trieste)
Liquid Detectors:	Inés Gil Botella (CIEMAT, Madrid)
Solid State Detectors:	Doris Eckstein (DESY)
PID & Photon Detectors:	Roger Forty (CERN)
Quantum and em Tech.	Steven Hoekstra (Groningen)
Calorimetry:	Laurent Serin (IJCLab)
Electronics:	Valerio Re (Bergamo)
Observer:	Aldo Ianni (APPEC, LNGS)
	Eugenio Nappi (NuPECC, Bari)
Ex Officio:	Karl Jakobs (ECFA Chair)
	Ian Shipsey (ICFA Detector Panel)

ECFA-LDG Working Group:

- Address the implementation of GSRs (mainly on infrastructure, such as GSR1, GSR2, GSR3, GSR5, and GSR9)
- Needs a broad representation

  - Directors of large laboratories

  - ECFA Representation / community

    * Larger countries (Funding Agencies), universities
    * Representation of smaller European countries (not in LDG)

- Address various issues in sub-groups (status quo, what is available, what needs to be refurbished, new investments)
- Accompany the proposal-writing process, which will give direct input on requirements

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“TF9” on “Training”

The conclusions of the detector R&D roadmap document (https://cds.cern.ch/record/2784893) explicitly stress the need to train and maintain a work force in instrumentation for particle physics, targeting, with the highest priority, graduate students and Early Career Researchers (ECR).

→ **ECFA Training Panel** has been set up;

Chairs: Johann Collot (Grenoble), Erika Garutti (Hamburg)

Goals:

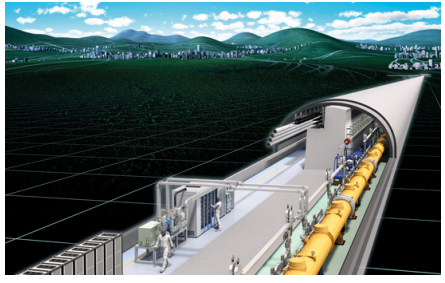
- Enhance the synergies between existing training programmes and stimulate the creation of complementary ones where relevant, in particular multidisciplinary schools or academia-industry-joined training programmes.
- Creation of a European master's degree programme in HEP instrumentation

During the roadmap process it was realised that there was a mutual interest to also involve training in accelerators and to support cross-disciplinary activities with this area. As a result, the recommendations state that the same panel should also coordinate the synergies between HEP instrumentation and accelerator training provision.

2. ECFA Study on Physics, Experiments and Detectors at a Future e^+e^- Factory

"ECFA recognizes 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 (ESPP)."*

Goal: bring the entire e^+e^- Higgs factory effort together, foster cooperation across various projects; collaborative research programmes are to emerge



ECFA Working Groups

WG 1: Physics Potential
Convener: ~~Juan Alcaraz (CIEMAT - Madrid),~~ Jenny List (DESY), Patrick Koppenburg (Nikhef)
Fabio Maltoni (UC Louvain / Bologna) and Jorge de Blas (Granada)

(Juan Alcaraz has stepped down, Patrick Koppenburg (Nikhef) has accepted to take on the new role)

WG 2: Physics Analysis Methods
Convener: Patrizia Azzi (INFN-Padova / CERN), Fulvio Piccinini (INFN Pavia) and Dirk Zerwas (IJCLab / DMLab)

WG 3: Detector R&D
Convener: Marie Cruz Fouz (CIEMAT - Madrid), Giovanni Marchiori (APC Paris) and Felix Sefkow (DESY)

Full information about the full study is available here:
https://ecfa.web.cern.ch/ecfa-study-higgs-ew-top-factories

International Advisory Committee

Composition of the IAC of the ECFA e+e- study:

RECFA / ECFA	Jean-Claude Brient, Patricia Conde-Muino (ECFA Scientific Secretary), Karl Jakobs (Chair), Tadeusz Lesiak, Chiara Meroni
Circular Colliders:	~~Alain Blondel~~, Mogens Dam, Patrick Janot, **Christos Leonidopoulos,** Guy Wilkinson
Linear Colliders:	Juan Fuster, Aidan Robson, Frank Simon, Steinar Stapnes
Theory:	Christophe Grojean, Andrea Wulzer
(HL)-LHC:	Jorgen D'Hondt, Max Klein, Aleandro Nisati, Roberto Tenchini
Detector R&D:	Didier Contardo
CERN:	Joachim Mnich

- Alain Blondel has submitted his resignation
- FCC Community has proposed **Christos Leonidopoulos (Edinburgh)** to take his seat in the IAC

- **Christos Leonidopoulos** has also been appointed as co-Editor of the ECFA study report, together with Aidan Robson

2nd ECFA workshop

- Hosted by INFN Napoli & Univ. Napoli
- Workshop has been announced to the community (also via ILC / CLIC / FCC communities, US, …)

  Registration is open
  All are encouraged to come!
- Programme will include plenary and parallel sessions (→ next slide)

  Abstract submission for parallel talks and posters is open (deadline 15 July)
  (Parallel sessions will have invited and submitted talks)

  Strong focus is put on on high-priority topics, lot of room for discussions
- Local organisation is proceeding well

https://agenda.infn.it/event/34841/

Focus Topics

Main aims of the ECFA study are to bring people together (across projects) and to attract more people (e.g. LHC) into the community

–> we have been developing a set of 'focus topics' through bottom-up discussions to provide concrete entry points for contributions

- highlight areas of shared interest across projects
- draw attention to aspects from all three WGs
- build on previous studies where there is interesting new scientific work to be done

–> promote enhanced cooperation and new engagement

- **develop common code / tools / datasets and person-skills that will have a wider application/impact, beyond the focus topics themselves**

Aidan Robson, LCWS23

Focus Topics

1. H->ss
2. ZH angular distributions / CP studies
3. Higgs self-coupling
4. W mass at threshold and continuum
5. Full studies of WW and evW processes, aTGCs
6. Top threshold detector-level sim study & scan optimisation
7. Luminosity measurement
8. New exotic scalars
9. Long-lived particles
10. Exotic top decays
11. CKM matrix elements with on-shell & boosted W decays
12. B → $K^{0*}\tau^+\tau^-$
13. EWK precision: 2-fermion final states
14. Measurement of b- and c-fragmentation functions / hadronisation
15. Measurement of gluon splitting to bb / cc & interplay with separating h → gluons from h →bb/cc

	relevant $\sqrt{s}$			
	91 GeV	161 GeV	240/250 GeV	350-380 GeV
1			X	X
2			X	X
3			X	X
4		X	X	X
5			X	X
6				X
7	X	x	x	x
8	x	x	x	x
9	x	x	x	x
10				x
11		x	X	x
12	X			
13	X	X	X	X
14	X	x	X	X
15	X	x	X	X

All containing many aspects, e.g. theory calculations / MC generators / reconstruction techniques / EFT interpretation / detector-level studies / interface to detector requirements / …

Aidan Robson, LCWS23

ECFA workshop timetable

Tue 10th Oct	Wed 11th Oct	Thu 12th Oct	Fri 13th Oct
	Plenary – Theory landscape Focus topics	Plenary – WG2 & WG3	Plenary – WG1, 2 & 3
		Coffee	Coffee
Software tutorial (optional)	Coffee	Plenary – special topics Detector issues How to present the Higgs factory case	Plenary – WG2 & WG3 Physics vision
	Parallel – Focus topics		
	Lunch	Lunch	
Software tutorial (optional)	Parallel	Parallel	
	Tea		
	Parallel	Tea	
		Plenary – Status of Higgs factory projects Towards a Higgs factory and beyond	
		ECR panel discussion	
	Poster session		
Dinner	Dinner	Workshop dinner	

Strong focus is put on on high-priority topics;

+ lot of room for discussions

3. ECFA-EPS meeting at EPS Conference in August 2023

- The EPS-HEP Conference will take place in Hamburg from 21 – 25 August
  (change of format, Monday – Friday, **ECFA-EPS session on Thursday 24 Aug, 16:30 – 18:45**)

16:00	**Coffee break** *Audimax, Universität Hamburg*	16:00 - 16:30
	Introduction by the ECFA chair — *Karl Jakobs* *Audimax, Universiatet Hamburg*	16:30 - 16:35
	The FCC feasibility study — *Michael Benedikt* *Audimax, Universiatet Hamburg*	16:35 - 17:05
17:00	**Status of e+e- Higgs factory projects** — *Jenny List* *Audimax, Universiatet Hamburg*	17:05 - 17:35
	ECFA study on e+e- Higgs factories — *Giovanni Marchiori* *Audimax, Universiatet Hamburg*	17:35 - 18:00
18:00	**The ECFA early career researcher panel** — *Armin Ilg* *Audimax, Universiatet Hamburg*	18:00 - 18:15
	ECFA detector R&D roadmap — *Didier Contardo* *Audimax, Universiatet Hamburg*	18:15 - 18:45

In addition there are two **Plenary Talks**:

- Overview on Detector R&D highlights / recent achievements (Erika Garutti, Hamburg)
- Overview on Accelerator R&D highlights / recent achievements (Steinar Stapnes, CERN)

4. ICFA Seminar 2023

ICFA Seminar at DESY in Hamburg, 28 Nov. – 01 Dec. 2023

CERN and CERN member states have 55 seats
(15 for CERN, 40 for member states)

CERN associate member states 8 seats

Not included in this counting (invited "*ad personam*") are:

- CERN directorate
- Persons with mandates (LDG Chair, ECFA Chair, ECFA Secretary, EPS-HEPP chair, …)
- Speakers

2023 ICFA Seminar: proposed # seats per country

Guiding principles:
- At least one seat per member state
- Roughly proportional to # ECFA representatives
- Extra seats for countries with National Labs in LDG
- Target to get 4 seats for ECR panel members

		# ECFA delegates	# seats ICFA seminar	National Labs ICFA seminar	# seats assigned
Austria		4	1		2
Belgium		3	1		1
Bulgaria		3	1		0
Czech Republic		3	1		1
Denmark		2	1		1
Finland		3	1		0
France		12	3	2	7
Germany		10	3	1	6
Greece		1	1		0
Hungary		2	1		1
Israel		1	1		0
Italy		8	2	2	6
Netherlands		5	2	1	2
Norway		2	1		1
Poland		4	1		1
Portugal		1	1		1
Romania		3	1		1
Serbia		2	1		1
Slovakia		3	1		1
Spain		5	2	1	3
Sweden		3	1		1
Switzerland		4	1	1	1
United Kingdom		6	2	2	6
		90	31	10	44

			# seats assigned
Associate member states (Europe)			
Croatia	1	0	
Cyprus	1	0	
Estonia	1		
Latvia	1		
Lithuania	1		
Slovenia	1	1	
Turkey	1	0	
Ukraine	1	0	
	8	1	

+ 4 ECR panel members

5. Future Colliders for Early-Career Researchers event

Goal: Inform ECRs about future collider options and development, enabling them to **shape their own vision on future colliders**

→ Planning a one-day hybrid meeting at CERN for ECRs:

- Short presentations on prospects, lots of time for discussions
- Can serve as reference information for ECRs about future colliders

27th of September before the November PECFA meeting

https://indico.cern.ch/event/1293507/

Follow-up the ECFA-wide event with national, in-person event

Everyone is welcome!

Invitation email

Title: Future Colliders for Early-Career Researchers event on the 27th of September

Dear colleague,

The workshop on **"Future colliders for Early-Career Researchers"** (ECRs) is going to take place at CERN and online on the 27th of September.

The aim of this one-day workshop is to introduce ECRs to the future-collider proposals currently under consideration, so that young researchers can form their opinions about this important matter for the future of our field, and to foster the discussion within the ECR community on the same topic.

This is an important moment for the future development of our field.
Indeed, in 2020, the last update of the European Strategy for Particle Physics was approved by the CERN council. In one of its twenty strategy statements, it is stated that an electron-positron Higgs factory is the highest-priority next collider. Studies on such and other colliders are in full swing world-wide. Moreover, we are halfway to the next update of the European strategy in 2026-2027.

Considering the long timelines that these projects have, we think that it is of paramount importance for young researchers to participate in an informed way to the many discussions that are currently taking place on the future of our field.

In light of this, and given your status as early career researcher, we would like to invite you to attend this event.

We would be very glad if you accept our invitation.

A preliminary agenda can be found at https://indico.cern.ch/event/1293507/.
We are currently in the planning phase, and will provide more details in the next few weeks.
However, to gauge the interest of the ECR community (also for organizational reasons), we would kindly invite you to register as soon as possible.

The workshop is organized by the ECFA* Early-Career Researchers panel.

Please don't hesitate to ask if you would like to get more information (ecfa-ecr-future-colliders@cern.ch).

Best regards,
The ECFA ECR working group on future colliders

*European Committee for Future Accelerators (ECFA)

6. Recent news from ICFA / ILC

- The International Development Team (IDT, implemented by ICFA) proposed to set up an **ILC Technology Network (ITN)**

- Main purpose: continue with the R&D, capitalize on the increased funding in Japan

- The concept has been presented by Steinar Stapnes at the CERN Council meeting in March
  → next slide

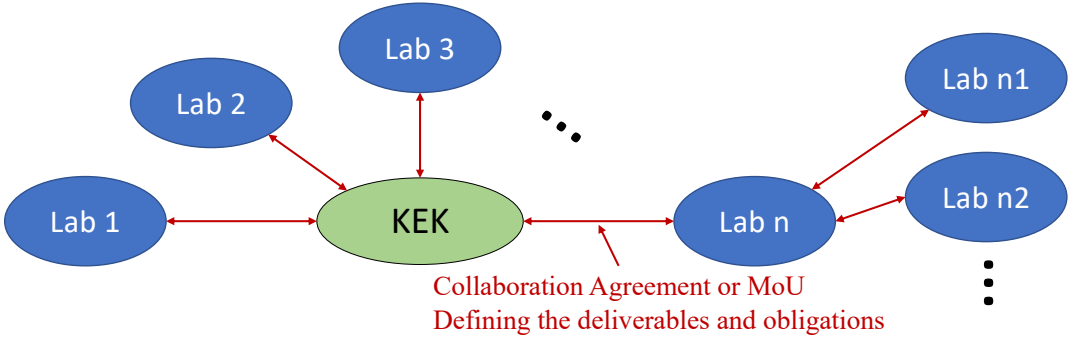
  Major R&D topics: SRF cavities, cryomodule design, crab cavities, positron source,…

  R&D programme is well aligned with the European accelerator R&D priorities…
  some parts of it build on existing expertise, industrial capabilities and infrastructure (e.g. SC cavities)

- ICFA has endorsed the plan proposed by Tatsuya Nakada in its meeting on 28th March 2023
  → see slides of Tatsuya Nakada at ICFA

1.1) ILC Technology Network: (More in the next presentation by M. Yamauchi)

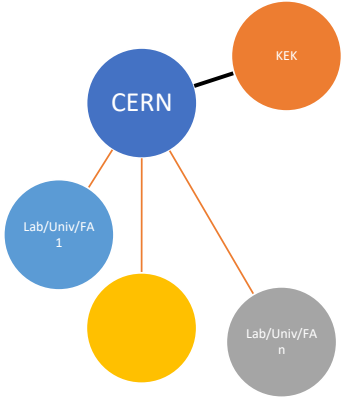
- ITN is dedicated to make progress in the ILC related accelerator R&D with high priority for engineering studies, profiting from the recommendation of the MEXT Expert Panel to continue R&D.
- It has been initiated as a joint effort of KEK and IDT and is based on the institutional engagement through bilateral agreements between KEK and partner laboratories (Collaboration Agreement/MoU).



Tatsuya Nakada, ICFA, 28th March

European Organisation of the ITN programme

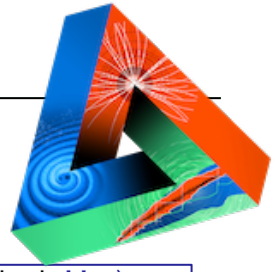
- CERN plays coordinating and facilitating role
- KEK contributes to the material costs
- Main contract for flow of funds between CERN and KEK*
  - CERN-KEK ILC IDT agreement already extended by 2 years
  - New agreement being prepared for ITN, describing the European programme, allowing funds to be transferred
- Subsequent contracts* – similar to what is done for other studies for future colliders – between CERN and European Labs in the cases where money flow is needed (limited number)
- Establish a light distributed Project Office, administratively anchored to CERN, to follow up the work.
- Aim to involve CERN personnel, fellows, PJAS within the current LC resource planning at CERN (in many cases using long term collaborative links and common studies between CLIC and ILC). This is possible without perturbing the overall LC study resource allocation.



*Additional collaboration agreements between KEK and FA/countries might be very beneficially, where these activities are recognised directly

Steinar Stapnes, CERN Council, 23rd March 6

7. Joint ECFA-NuPECC-APPEC Activities



- Discussions of work plan of **Joint Activities** with **EoI coordinators** took place early January;

  - Some of them progressing very well
  - However, not true for all, further follow-up planned

Six Expressions of Interest endorsed: (ECFA participation in **blue**)

- *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*
- *Synergies between EIC and LHC*

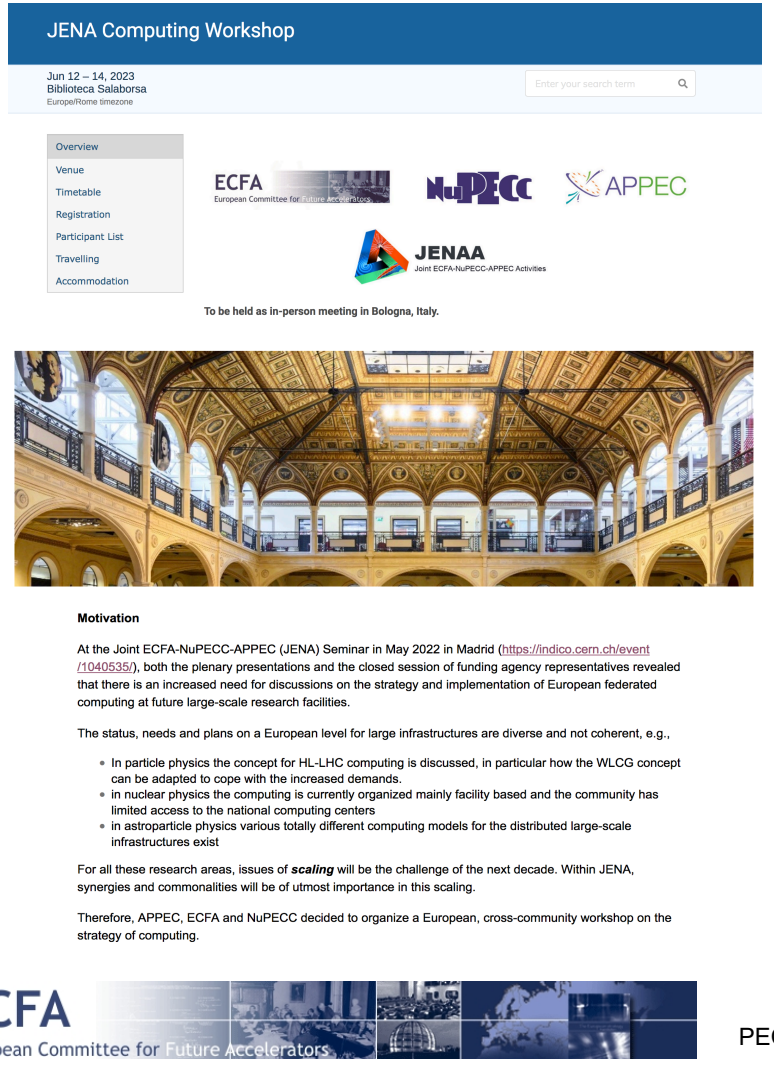
- **Madrid recommendations:** - Exploit synergies on computing, detector R&D, accelerator R&D, training and outreach
  - Address sustainability and knowledge transfer

Detector and accelerator R&D: basically covered; synergies should be used in DRDs, panels on accelerator R&D,
Training ECFA Training Panel

Computing: First joint ECFA-APPEC-NuPECC workshop in preparation; → Bologna, 12 – 14 June 2023

Sustainability and **knowledge transfer:** to be addressed!

Joint ECFA-NuPECC-APPEC Computing workshop in Bologna



JENA Computing Workshop

Jun 12 – 14, 2023
Biblioteca Salaborsa
Europe/Rome timezone

Enter your search term

Overview
Venue
Timetable
Registration
Participant List
Travelling
Accommodation

ECFA European Committee for Future Accelerators · NuPECC · APPEC · JENAA Joint ECFA-NuPECC-APPEC Activities

To be held as in-person meeting in Bologna, Italy.

Motivation

At the Joint ECFA-NuPECC-APPEC (JENA) Seminar in May 2022 in Madrid (https://indico.cern.ch/event/1040535/), both the plenary presentations and the closed session of funding agency representatives revealed that there is an increased need for discussions on the strategy and implementation of European federated computing at future large-scale research facilities.

The status, needs and plans on a European level for large infrastructures are diverse and not coherent, e.g.,

- In particle physics the concept for HL-LHC computing is discussed, in particular how the WLCG concept can be adapted to cope with the increased demands.
- in nuclear physics the computing is currently organized mainly facility based and the community has limited access to the national computing centers
- in astroparticle physics various totally different computing models for the distributed large-scale infrastructures exist

For all these research areas, issues of ***scaling*** will be the challenge of the next decade. Within JENA, synergies and commonalities will be of utmost importance in this scaling.

Therefore, APPEC, ECFA and NuPECC decided to organize a European, cross-community workshop on the strategy of computing.

- Coordination group / programme committee:

  Includes two experts from each of the three areas;
  For ECFA: Simone Campana (CERN) and
  Graeme Stuart (CERN)

- First meeting targeted to be an **expert meeting**
  [~60 participants in Bologna + 15 – 20 online]

  Thanks for your nominations!

  Experts (for rapporteur talks and round-table discussions)

  Target:

  → Identify important areas, set up of working groups; carry out work over next ~2 years

  → “White Paper” for next update of ESPPU

Major Conclusions

Goals: identify the computing requirements in the next decade and identify synergies that can benefit all the three communities (Particle Physics, Nuclear Physics, and Astroparticle Physics)

Five areas were identified:

1. **HPC Computing:** The relationship with HPC centres and the integration of HPC resources with our computing infrastructures.
   For Europe, there is a need to engage at a higher level with EuroHPC. Contrary to the past, there is an opportunity to shape the evolution and policies of HPC facilities towards the ENA sciences' needs with the goal of both augmenting the computing capacity available for this community and facilitating the federation with existing data facilities.
   → **Working Group**

2. **Software and Heterogeneous Architectures**
   There is a large spread of software used in ENA, from very generic to highly specific. One of the main challenges into the future is the fact that available computing will increasingly appear with heterogeneous architectures (as well as ARM, we have GPUs, perhaps FPGAs). In order to make effective use of these processors and increase the efficiency of our code by factors we will need Research Software Engineers and domain experts that optimise the current code and also that engage in exploratory software R&D activities, rethinking algorithms. There will be significant domain level differences in applications, but substantial overlap in skills and techniques. It is important to convey the message to funding agencies that it is crucial to invest in training, hiring and retaining people with this profile. This is also seen as one of the main opportunities to address sustainability.
   → **Working Group**

Major Conclusions

3. Federated Data Management, Virtual Research Environments and FAIR/Open Data

Very positive feedback about the work done in ESCAPE in this area. The ESCAPE collaboration should be leveraged to strengthen synergies between the three sciences around data management and federated identities.

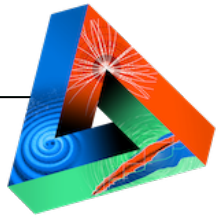
The ECFA / NuPECC and APPEC chairs are in the ESCAPE advisory board and will recommend that ESCAPE focuses on those areas and the evolution of the tools and services for the next decade.

4. Machine Learning and Artificial Intelligence

These data analysis methodologies have seen a rapid expansion in the last years in most fields of science, including the ECFA/NuPECC/APPEC domains. A **Working Group** will be set up to follow the technologies in this fast evolving field, and analyse the potential impact on the ENA computing infrastructure needs. The focus will be to quantify the resource needs and to define the interfaces and services that are needed by physicists to run ML workloads (looking at both training and inference)

5. Training, Dissemination, Education

Training: Leverage the experience in the HSF training initiative and find common ground with other sciences.
Dissemination: We will consider the idea to organise a conference on scientific computing similar to CHEP, but embracing more sciences (largely beyond ENA). (European Science Clusters)
Education: ECFA will explore an initiative on a European master program for detector physicists and engineers.
→ could be extended to Scientific Software and Computing;
The EuroHPC JU started a similar initiative in 2022 named EUMAster4HPC through a H2020 project.



New Expression of Interest has been received
"European Coalition for AI in Fundamental Physics (EuCAIF)"

Expression of Interest

for a synergic research plan of potential interest of the JENA group

Project title:

European Coalition for AI in Fundamental physics (EuCAIF)

Keywords: European Initiative, Machine Learning (ML), Artificial Intelligence (AI), Fundamental Physics, Particle Physics, Astroparticle Physics, Nuclear Physics, Gravitational Wave Physics, Theoretical Physics, Simulation, Computational Infrastructure

Participating individuals and contacts:

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… et al.

6. Summary

The initiative will engage in various activities to foster collaboration, promote research projects, facilitate training programs, organize conferences and workshops, and establish networking and exchange opportunities. These activities aim to drive innovation, knowledge exchange, and the application of ML and AI techniques in fundamental physics research (currently HEP/GW/Astrophysics). The initiative will organize regular workshops and conferences, including the "Yearly/Bi-yearly European Conference on Machine Learning and AI in Fundamental Physics," to encourage collaboration, share research findings, and explore emerging trends. The first conference is scheduled for May 2024 in Amsterdam, serving as a kick-off meeting. To promote interdisciplinary collaboration, the initiative will support research projects that bring together experts from particle physics, astroparticle physics, and gravitational wave research, with a specific focus on ML and AI applications. It will tap funding opportunities and foster cross-disciplinary partnerships. Along with other initiatives, data challenges will be proposed to drive innovation and evaluate the performance of ML and AI algorithms in fundamental physics. These challenges will provide researchers with specific problems or data sets to address to drive algorithm development. Training programs, summer schools, and online resources are encouraged and developed to educate researchers and students on the use of ML and AI techniques in basic physics research. These initiatives will empower individuals with necessary skills and knowledge. Networking and exchange programs will facilitate collaboration and the exchange of ideas and expertise among researchers and institutions. Matchmaking activities, research visits, and joint projects will foster a vibrant community and promote cross-pollination of ideas.
A dedicated webpage, such as www.eucaif.org, will be developed to serve as a central hub for the initiative's activities, resources, and communication.
Through these activities, the European Initiative on Machine Learning and AI in Fundamental Physics aims to foster collaboration, drive research advancements, provide training opportunities, facilitate knowledge exchange, and establish a strong and vibrant community at the forefront of ML and AI in fundamental physics research. Finally, we are aware that this initiative is a challenging project and we greatly appreciate the help of JENAS.

New Expression of Interest has been received

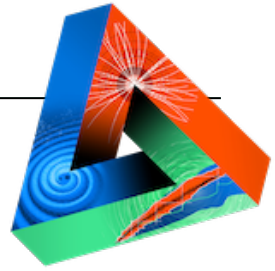
"European Coalition for AI in Fundamental Physics (EuCAIF)"

Proposal is linked to the RECFA webpage

- *Many positive aspects*
- *Strong common interest of the three research fields*
- *Interesting, timely and important topic*
- *Of relevance as well to the previously discussed JENA-Computing Working Group on ML*
  This initiative may provide the seed for such a working group.

→ *Please have a look at the proposal;*
Decision on ECFA support will be taken at RECFA meeting in Lisbon in Sept.

Feedback from P-ECFA is highly welcome (→ email to Chair and Secretary)



- As reported by Marek Lewitowicz: **NuPECC Long Range Plan** process is ongoing;

  LRP to be presented in 2024

  Process is followed by K. Jakobs and J. Mnich as members of LRP Coordination Group;

8. ECFA Schedule 2023 / 2024

https://ecfa.web.cern.ch/timetable-2023

Plenary ECFA meetings 2023:

- 24 August 2023 (during 2023 EPS Conference in Hamburg (21 – 25 Aug. 2023))

- 16 – 17 Nov. 2023 at CERN

Plenary ECFA meetings 2024:

It is a tradition to have the **summer P-ECFA meeting** in non-EPS years **at a European Laboratory;**
Call for proposals was issues at beginning of May 2023

→ **Frascati LNF (F. Bossi) is interested to hold this meeting in July 2024**
Detailed proposal (date, venue, accommodation, visit of facilities, fees, … will be worked out)

→ Final decision at Sept. RECFA meeting in Lisbon

RECFA Country Visits in 2023 and 2024

2023: Country visits:	Czech Republic	31 March - 1 April
	Norway	28 - 29 April
	Portugal	15 - 16 Sept.
	Greece	10 - 11 Nov.
2024: Country visits	Switzerland	8 – 9 March (at PSI Villigen)
	Sweden	16 – 17 May
	United Kingdom	13 – 14 Sept.
	Serbia	29 – 30 Nov.

In addition, a first visit to **Ukraine** is on hold