

Strategy and Community in Accelerator Science: An ECFA and PPAP Update

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ISIS Accelerator Physics Group – Plenary ECFA (UK) – PPAP

IOP PAB Conference, Lancaster
30 July – 1 August 2026



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ECFA

European Committee for Future Accelerators



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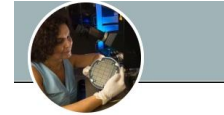
CERN Jobs

What is ECFA?

ECFA

European Committee for Future Accelerators

- Founded 1963 by CERN DG & CERN Scientific Policy Committee to co-ordinate **planning of next-generation high-energy accelerators in Europe.**
- Regular meetings (Plenary & Restricted) to **formulate and recommend strategic actions.**
- Organising symposia and conferences.
- Forming ad hoc **study groups for specific challenges.**
- Country visits – issuing **recommendations to governments and physics community.**
- **Monitoring** strategic plans (European Particle Physics Strategy and its Updates)
- A few 'plenary' delegates per members state, one RECFA delegate



daniela bortoletto · 1st
Professor at University of Oxford

UK RECFA Delegate



Sarah Williams She/Her · 2nd
Assistant Professor at the University of Cambridge



Vacancy

Particle and Accelerator Physics



Haroon Rafique He/Him
Senior Accelerator Physicist at STFC



Joel Goldstein He/Him · 1st
Professor in Experimental Particle Physics



Aidan Robson · 1st
Professor of Particle Physics at the University of Glasgow



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Matthew Wing

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Professor of Physics
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UK Plenary ECFA Delegates



Ben Hounsell

Accelerator Physicist
ASTeC, STFC Daresbury Laboratory



Aidan Wiederhold · 1st
LHCb Postdoctoral Researcher at the University of Manchester



Alison Elliot She/Her · 1st
Research Associate on CMS at Rutherford Appleton Laboratory



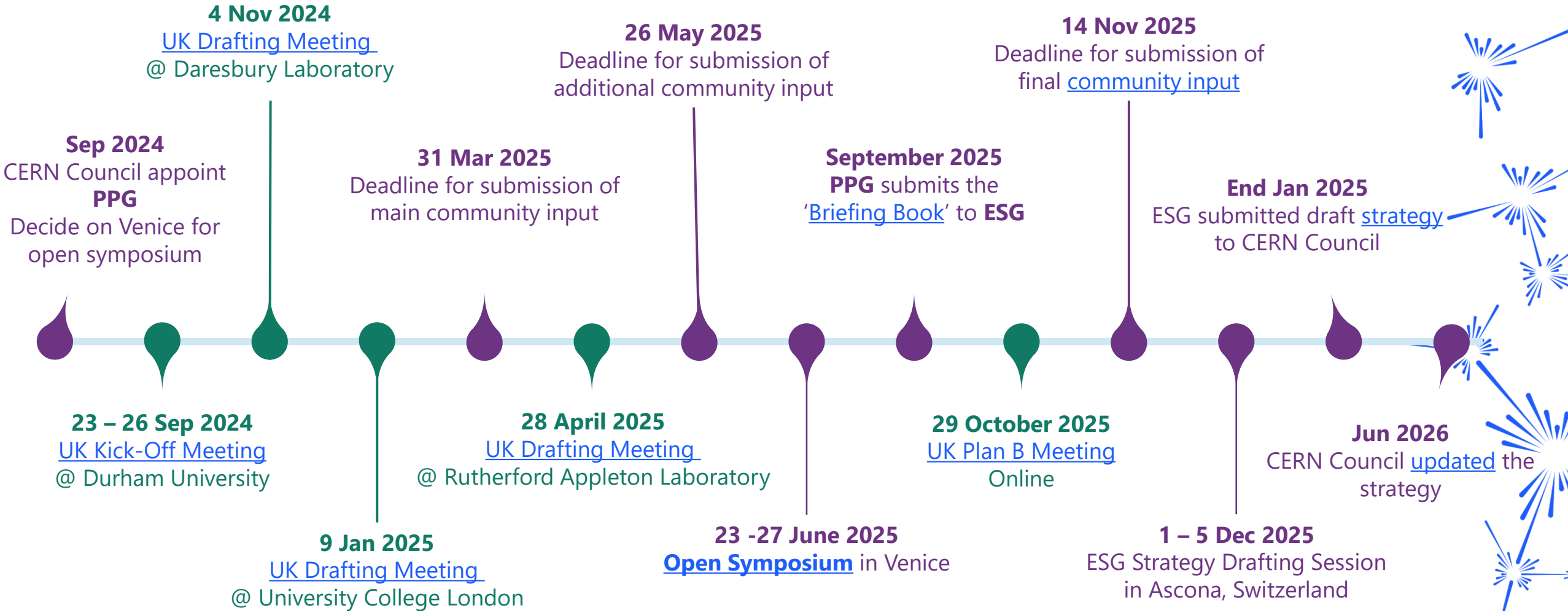
Harriet Watson She/Her · 1st
Postdoctoral Research Associate, University of Edinburgh | PhD in High Energy Physics



Estifa'a Zaid · 2nd
Particle Physicist University of Liverpool

UK ECR ECFA Delegates

2026 Update to the European Strategy for Particle Physics (ESPPU)





The European Strategy for Particle Physics:
2026 Update

*Recommendations
by the European Strategy Group*



3. The next CERN flagship collider project

A. The electron–positron Future Circular Collider (FCC-ee) is recommended as the preferred option for the next flagship collider at CERN.

The FCC-ee would deliver the world's broadest high-precision particle physics programme, with an outstanding discovery potential through the Higgs, electroweak, flavour and top-quark sectors, as well as advances in quantum chromodynamics (QCD). Its technical feasibility is demonstrated by the comprehensive FCC Feasibility Study, its scope and cost are well defined, plausible funding scenarios have been developed and its schedule enables first beams within five to seven years after the end of HL-LHC operations. The FCC-ee would maintain European leadership in high-energy particle physics, as well as advancing technology and providing significant societal benefits.

The FCC-ee would also pave the way towards a hadron collider reusing the tunnel and much of the infrastructure, providing direct discovery reach well beyond the 10 TeV parton energy scale, in line with the community's ambition for exploration at the highest achievable energy. The overwhelming endorsement of the FCC-ee by the particle physics communities of CERN's Member and Associate Member States further reinforces it as the preferred path.

B. A descoped FCC-ee is the preferred alternative option for the next flagship collider at CERN.

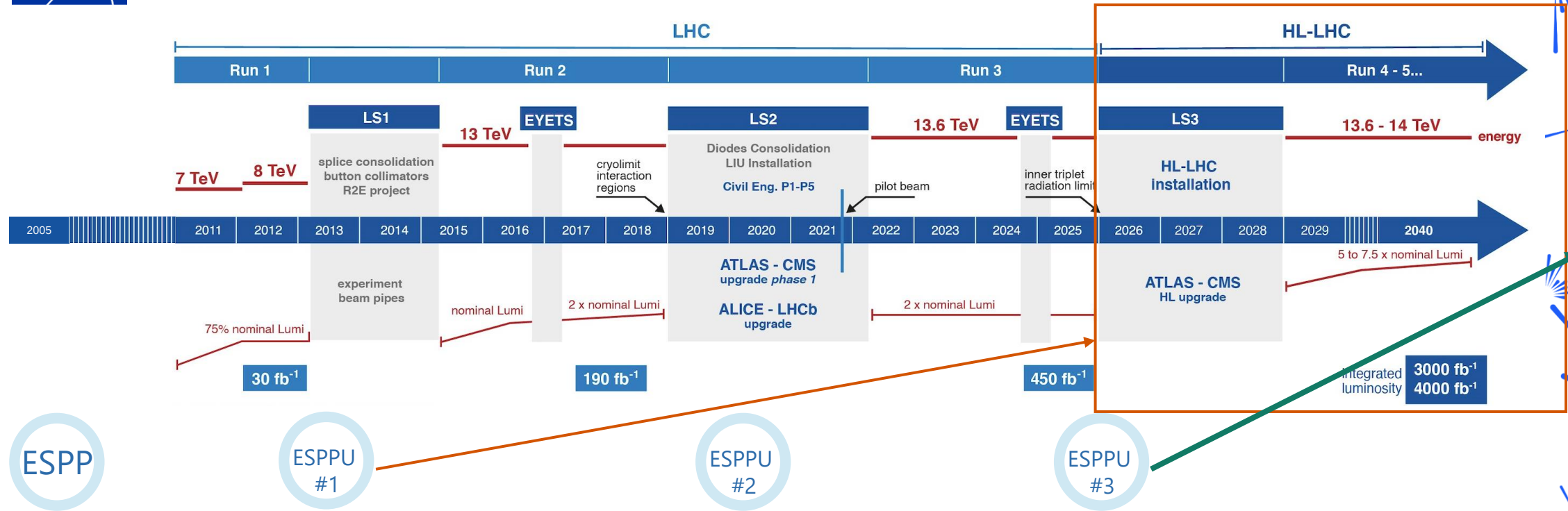
Descoping scenarios include removing the top-quark run, constructing two rather than four interaction regions and experiments and decreasing the radiofrequency (RF) system power. These measures would reduce the construction cost by approximately 15%. Although this would have a significant impact on the breadth of the physics programme and the precision achieved, the descoped FCC-ee would still provide a very strong physics programme and a viable path towards high energies, compared to the alternative collider options. Should additional resources become available, these descoping scenarios would be reversible.

CERN Flagship Timeline

6



LHC / HL-LHC Plan



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20 | The European strategy for particle physics

The European Strategy for Particle Physics
Update 2013

2020 UPDATE OF THE EUROPEAN STRATEGY
FOR PARTICLE PHYSICS

by the European Strategy Group

Haroon Rafique - ECFA-UK/PPAP Update



The European Strategy for Particle Physics:
2026 Update

Particle Physics Advisory Panel (PPAP)

The purpose of the Particle Physics Advisory Panel (PPAP) is to provide a link between [Science Board](#) and the community, and represent the needs of the community to the Science and Technology Facilities Council (STFC).

The advisory panel is tasked to:

- maintain an overview of activities within the area
- develop and maintain a science vision and long term strategy or roadmap by assessing the merit of current and future science opportunities
- develop and maintain a technology roadmap for their area of research
- consult and interact with the community to ensure its views are canvassed and there is an appropriate and effective route for communication with STFC on strategic programmatic issues
- provide advice to Science Board on specific questions as requested
- liaise with other advisory panels when appropriate
- report on its activities to Science Board on a regular basis using the process set out below: the science strategy developed by the advisory panel will be used by Science Board as input to ongoing strategy development and in future programmatic reviews
- consist of a chair and deputy and up to 12 other members, the panel size depending on the size of the community and the need to ensure that the panel membership fully reflects the breadth of the community.



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Lecturer (Ernest Rutherford Fellow)
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Dr Joe Price
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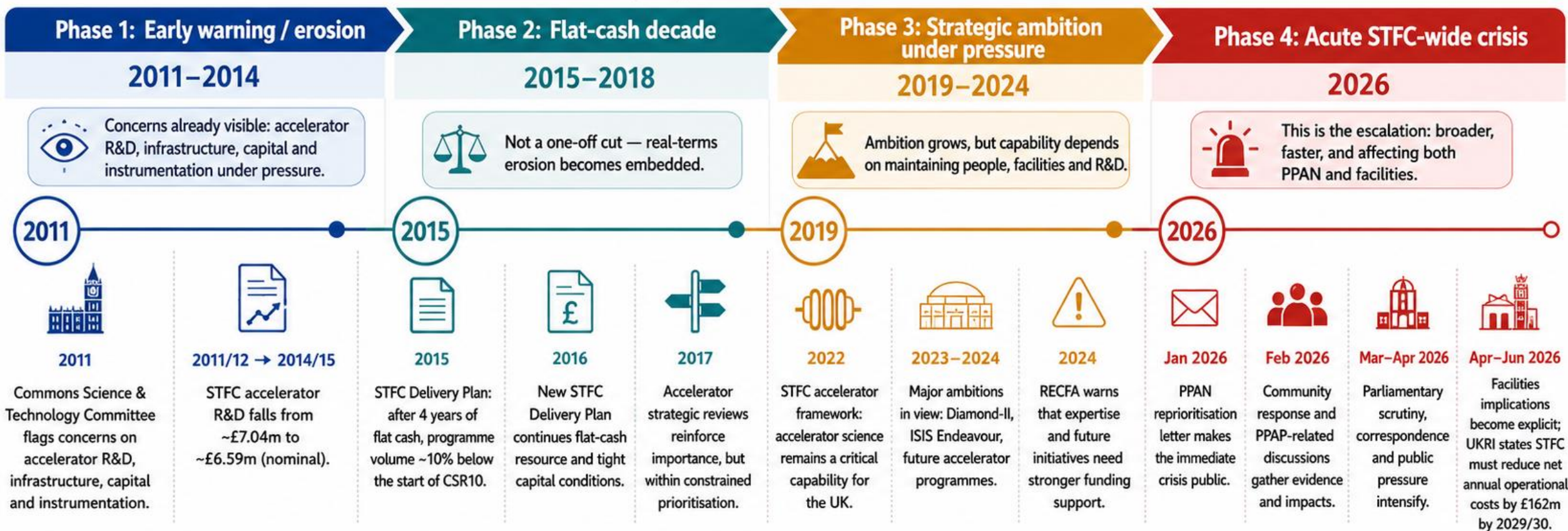


Mark Williams
Dr M Williams
Position
Royal Society University Research Fellow
Category
Academic staff
THE UNIVERSITY OF EDINBURGH

PPAP Members

UK accelerator and PPAN funding: from long-term squeeze to current crisis

A long squeeze, not a sudden shock



Highlighted primary sources



The current crisis is the latest stage of a long-term funding squeeze, but it is broader and sharper than previous episodes.

What is different now? Scale and scope

This time the squeeze is broader, deeper, and simultaneous

THEN

Earlier pressures were serious, but more localised

-  **1** Flat cash and real-terms erosion
-  **2** Repeated prioritisation exercises
-  **3** Pressure on accelerator R&D and instrumentation
-  **4** Capital vs resource trade-offs
-  **5** Strategic reviews used to manage scarcity

Historical benchmark



Accelerator R&D fell in nominal terms.



-  **Scale**
larger
-  **Scope**
grants + facilities
-  **Speed**
more immediate

NOW

The current situation is system-wide

-  **1** STFC-wide savings requirement
-  **2** PPAN and facilities both affected
-  **3** Labs, grants and operations all in scope
-  **4** Engineering and computing projects at risk
-  **5** Community and parliamentary scrutiny intensified
-  **6** Greater immediacy and broader consequences

£162m

net annual operational cost
reduction required by 2029/30

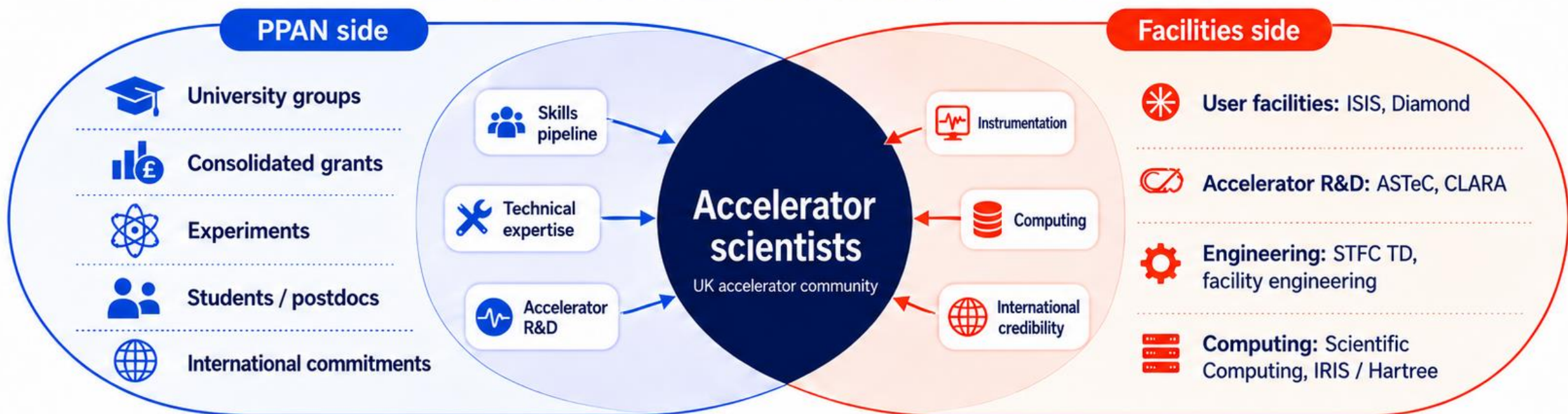
 Not like-for-like values — the inset benchmark and the £162m figure illustrate scale, not identical budget categories.



Earlier pressures were serious but often localised; the current situation is system-wide.

Why accelerator scientists should care: both sides of STFC are involved

Accelerator scientists sit in the overlap — and so does PPAP



How the current response works



Accelerator scientists are exposed on both sides: research grants and national facilities.



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Department for
Science, Innovation,
& Technology

UK Engagement with CERN

UKatCERN@stfc.ukri.org

Recent Progress



Strong UK Representation

- UK representation in key positions at CERN and its governance (DG, Chair of SPC, TREF, ILO Forum, etc.)

Skills at CERN

- Improvements in skills return with UK ranked 2nd for new hires (13.4%) in 2025 driving shift from 'poorly' to 'moderately' balanced status.

Opportunities for Students – CERN schools

- Scientific Computing: theory and practice – University of Liverpool (23rd August – 5th September)
- Thematic CERN School of Computing on Security – STFC, Abingdon (27th September – 3rd October) – **Applications open until 1st July**



Beamlines for Schools – UK win

- A UK school has been successful in CERN's Beamlines for Schools programme. The team, from Liverpool University School for Maths will get access to DESY beamline to carry out their experiments.

CERN ECR and Student Opportunities

ECR:

Are you a recent graduate from a university, technical college, or vocational programme with less than two years of post-graduation experience?

The Origin Programme offers early-career technicians, engineers, and physicists the chance to work in a world-class research environment, gaining hands-on experience and building a strong foundation for the future.

- **Open year-round**
- Opportunities across multiple disciplines

Know someone who'd be a great fit? Share this with them! Full vacancy list [here](#)

Students:

Find out more about the opportunities available to students on the CERN website:

- [Technical Student Programme](#)
- [Doctoral Student Programme](#)
- [Administrative Student Programme](#)



**Applications open next in
early October for early
2027 start dates.**

CERN Staff Opportunities

Source and Linac Physicist

BE-ABP-HSL-2026-133-LD

Engineer in Charge of the Proton Synchrotron

BE-OP-PS-2026-128-LD

Controls and Automation Engineer

EN-CV-CL-2026-171-GRAE

Mechanical Technician

SY-RF-AC-2026-172-GRAE

Mechanical Designer

EN-MME-MD-2026-132-LD

Software Developer for Control Systems

BE-ICS-STF-2026-105-GRAP

AI Solutions Engineer

BE-CSS-ISA-2026-115-LD

Reach out to **Freddie** on LinkedIn
to discuss opportunities at CERN



Freddie Neill ✓ · 1st

Talent @ CERN

Switzerland · [Contact info](#)

[500+ connections](#)



CERN

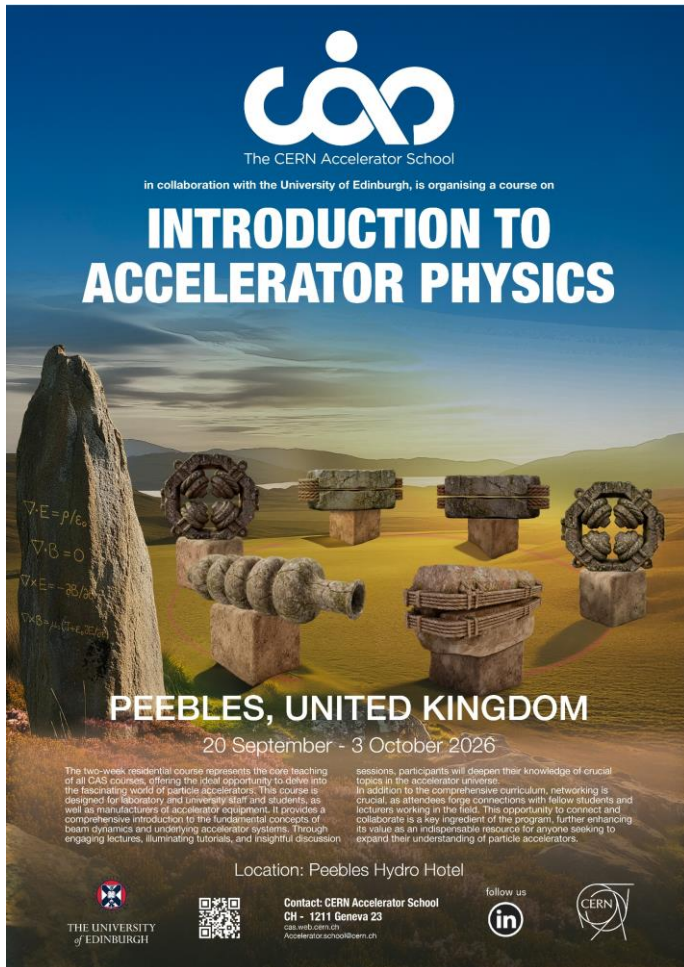


University of East Anglia



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Please share:



Really exciting to see the CERN Introduction to Accelerator Physics School being hosted here in the UK!

The two-week course, held in Peebles, is a collaboration between CERN and the Institute for Particle and Nuclear Physics at the University of Edinburgh.

Open to postgraduate students and those working across accelerator labs, academia, and industry, this is a brilliant opportunity to gain core knowledge in accelerator physics and connect with the wider community.

Definitely worth a look if you're in the field - or know someone who is.

<https://indico.cern.ch/event/1622828/>

Get Involved

✦ Share Your CERN Success Stories

Have a great CERN-related achievement or impact story? Help us showcase the value of UK investment in CERN by sharing it with us!

👤 Become a UK CERN Champion

Support CERN HR by promoting studentships, fellowships, ORIGIN, and QUEST opportunities in UK universities.

✉ Contact: career.events@cern.ch

Contact:

UKatCERN@stfc.ukri.org



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@STFC_matters



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Summary

- ECFA:
 - European Strategy for Particle Physics aims for an FCC-ee flagship at CERN
- PPAP:
 - Communicating with the Particle Physics (+ enabling tech: Accelerators, Computing, Detectors...) community to assess/identify the impact of funding changes
- CERN:
 - ECR and Student opportunities
 - Staff positions
 - CERN Accelerator School @ Edinburgh

Role of advisory panels in PPAN prioritisation

AP Chairs or their designated representatives participate to provide system-level impact assessment of proposed scenarios.
We are not co-authors of SB PPAN recommendations or of prioritisation decisions taken by STFC/UKRI, and do not endorse rankings or allocations.

Our role is to:

- Assess consequences across the PPAN programme
- Identify risks, particularly irreversible loss of capability
- Highlight gaps where impacts are not sufficiently understood

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Senior Accelerator Physicist at STFC

Connect with me on LinkedIn



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