

**ECFA-UK Meeting on UK  
studies for the European  
Strategy Particle Physics  
Update**

**Report of Contributions**

Contribution ID: 1

Type: **not specified**

# Introduction and UK relation to European Roadmap

*Wednesday, 25 September 2024 09:00 (24 minutes)*

**Presenter:** BOOGERT, Stewart

**Session Classification:** Accelerator R+D

Contribution ID: 2

Type: **not specified**

## Hadron colliders including HL-LHC

*Wednesday, 25 September 2024 09:24 (24 minutes)*

**Presenter:** GIBSON, Stephen (Royal Holloway University of London)

**Session Classification:** Accelerator R+D

Contribution ID: 3

Type: **not specified**

## **e+e- Higgs factories**

*Wednesday, 25 September 2024 09:48 (24 minutes)*

**Presenter:** BURROWS, Phil

**Session Classification:** Accelerator R+D

Contribution ID: 4

Type: **not specified**

## **Muon beams and colliders**

*Wednesday, 25 September 2024 10:12 (24 minutes)*

**Presenter:** ROGERS, Chris (RAL)

**Session Classification:** Accelerator R+D

Contribution ID: 5

Type: **not specified**

## **Novel accelerator based colliders**

*Wednesday, 25 September 2024 10:36 (24 minutes)*

**Presenter:** D'ARCY, Richard

**Session Classification:** Accelerator R+D

Contribution ID: 6

Type: **not specified**

## **FPF + SHiP Motivation**

*Wednesday, 25 September 2024 12:00 (15 minutes)*

**Presenters:** SARKAR, Subir (University of Oxford); SARKAR, Subir (University of Oxford)

**Session Classification:** Non-collider experiments and facilities

Contribution ID: 7

Type: **not specified**

## **Forward Physics Facility and Transverse LLP experiments**

*Wednesday, 25 September 2024 12:20 (15 minutes)*

**Presenters:** BARR, Alan (University of Oxford); BARR, Alan (Oxford)

**Session Classification:** Non-collider experiments and facilities



Contribution ID: 8

Type: **not specified**

## SHiP Experiment

*Wednesday, 25 September 2024 12:40 (15 minutes)*

**Presenters:** GOLUTVIN, Andrey (Imperial College London); PATEL, Mitesh (Imperial College London)

**Session Classification:** Non-collider experiments and facilities

Contribution ID: 9

Type: **not specified**

## **Muon cLFV + Kaon Motivation**

*Wednesday, 25 September 2024 14:00 (15 minutes)*

**Presenter:** GORBHAN, Martin (University Of Liverpool)

**Session Classification:** Non-collider experiments and facilities

Contribution ID: **10**

Type: **not specified**

## **Muon cLFV + muon/proton EDM Experiments**

*Wednesday, 25 September 2024 14:20 (15 minutes)*

**Presenter:** VOSSEBELD, Joost (University of Liverpool)

**Session Classification:** Non-collider experiments and facilities

Contribution ID: 11

Type: **not specified**

## **Kaon + Pion Experiments**

*Wednesday, 25 September 2024 14:40 (15 minutes)*

**Presenters:** Prof. GOUDZOVSKI, Evgueni (University of Birmingham); GOUDZOVSKI, Evgueni (University of Birmingham)

**Session Classification:** Non-collider experiments and facilities

Contribution ID: 12

Type: **not specified**

## Dark Matter Theory

*Monday, 23 September 2024 17:30 (20 minutes)*

**Presenter:** MCCABE, Christopher (King's College London)

**Session Classification:** Dark matter detection

Contribution ID: 13

Type: **not specified**

## LUX-ZEPLIN

*Monday, 23 September 2024 17:50 (20 minutes)*

**Presenters:** COTTLE, Amy (University College London); COTTLE, Amy (UCL)

**Session Classification:** Dark matter detection

Contribution ID: 14

Type: **not specified**

## **Darkside-20K**

*Monday, 23 September 2024 18:10 (20 minutes)*

**Presenter:** KEMP, Ashlea (University of Oxford)

**Session Classification:** Dark matter detection

Contribution ID: 15

Type: **not specified**

## **Potential Near-Term Boulby Experiments: DarkSphere**

*Tuesday, 24 September 2024 09:00 (10 minutes)*

**Presenter:** Dr KNIGHTS, Patrick

**Session Classification:** Dark matter detection



Contribution ID: 16

Type: **not specified**

## **Potential Near Term Boulby Experiments: SOLAIRE**

*Tuesday, 24 September 2024 09:10 (10 minutes)*

**Presenter:** SAVARESE, Claudio (University of Manchester)

**Session Classification:** Dark matter detection

Contribution ID: 17

Type: **not specified**

## **Potential Near-Term Boulby Experiments: UltraDark**

*Tuesday, 24 September 2024 09:20 (10 minutes)*

**Presenter:** LEASON, Elizabeth (University of Edinburgh)

**Session Classification:** Dark matter detection

Contribution ID: **18**

Type: **not specified**

## **Potential Long-Term Boulby Experiments: XLZD**

*Tuesday, 24 September 2024 09:30 (30 minutes)*

**Presenter:** Dr BROWN, Adam (University of Sheffield)

**Session Classification:** Dark matter detection

Contribution ID: 19

Type: **not specified**

## **Electron, muon and charged hadron Particle Identification systems for detectors of the 2030s and 2040s. [DRD1,4,6]**

*Monday, 23 September 2024 16:30 (25 minutes)*

**Presenter:** ROMANO, Angela (University of Birmingham)

**Session Classification:** Detector R+D

Contribution ID: 20

Type: **not specified**

## **Neutrino and dark matter liquid detectors [DRD2]**

*Tuesday, 24 September 2024 10:00 (20 minutes)*

**Presenter:** GUENETTE, Roxanne (University of Manchester)

**Session Classification:** Detector R+D

Contribution ID: 21

Type: **not specified**

## **Environmental impact of particle physics detector systems and collaborations**

*Tuesday, 24 September 2024 12:30 (20 minutes)*

**Presenter:** BOISVERT, Veronique (Royal Holloway University of London)

**Session Classification:** Detector R+D

Contribution ID: 22

Type: **not specified**

## Quantum technology for HEP

*Tuesday, 24 September 2024 15:00 (20 minutes)*

**Presenter:** DAW, Ed (Sheffield University)

**Session Classification:** Detector R+D

Contribution ID: 23

Type: **not specified**

## **Evolution of readout electronics, DAQ and online technology in the next 20 years. [DRD7]**

*Wednesday, 25 September 2024 11:30 (20 minutes)*

**Presenter:** FITZPATRICK, Conor (University of Manchester)

**Session Classification:** Detector R+D



Contribution ID: 24

Type: **not specified**

## **Silicon Vertex and Tracking sensor technologies: from LHC to FCC [DRD3]**

*Thursday, 26 September 2024 12:30 (20 minutes)*

**Presenter:** VILELLA FIGUERAS, Eva (University of Liverpool)

**Session Classification:** Detector R+D

Contribution ID: 25

Type: **not specified**

## **Estimating Monte Carlo uncertainty in Strange Jet tagging at the FCC**

*Monday, 23 September 2024 18:45 (1 minute)*

**Presenter:** SILVETTI, Federico (Institute for Particle Physics Phenomenology - Durham University)

**Session Classification:** Poster session and reception

Contribution ID: 26

Type: **not specified**

## DIS event generation in Sherpa

*Monday, 23 September 2024 18:46 (1 minute)*

**Presenters:** REICHELT, Daniel (Durham University, IPPP); SILVETTI, Federico (Institute for Particle Physics Phenomenology - Durham University); MEINZINGER, Peter (IPPP)

**Session Classification:** Poster session and reception

Contribution ID: 27

Type: **not specified**

## **PDF: challenges and opportunities**

*Wednesday, 25 September 2024 15:30 (25 minutes)*

**Presenter:** THORNE, Robert (University College London)

**Session Classification:** Theory

Contribution ID: 28

Type: **not specified**

## **Pancscales - an overview**

*Monday, 23 September 2024 17:00 (25 minutes)*

**Presenter:** DASGUPTA, Mrinal (University of Manchester)

**Session Classification:** Theory

Contribution ID: 29

Type: **not specified**

## Electroweak precision

*Monday, 23 September 2024 14:08 (24 minutes)*

**Presenter:** SCHOENHERR, Marek (IPPP Durham)

**Session Classification:** e+e- colliders

Contribution ID: **30**

Type: **not specified**

## **Electroweak and QCD measurements**

*Monday, 23 September 2024 14:36 (24 minutes)*

**Presenter:** HAYS, Chris (Oxford University)

**Session Classification:** e+e- colliders

Contribution ID: **31**

Type: **not specified**

## **Higgs measurements**

*Monday, 23 September 2024 15:04 (24 minutes)*

**Presenter:** ROBSON, Aidan (University of Glasgow)

**Session Classification:** e+e- colliders



Contribution ID: 32

Type: **not specified**

## Heavy flavour and searches

*Monday, 23 September 2024 15:32 (24 minutes)*

**Presenter:** KENZIE, Matthew (University of Warwick)

**Session Classification:** e+e- colliders

Contribution ID: 33

Type: **not specified**

## Theory Overview

*Tuesday, 24 September 2024 16:00 (20 minutes)*

opportunities that can be accessed both by the UK's QTFP programme and by quantum sensing more generally from a theory perspective

**Presenter:** HARDY, Ed (Oxford)

**Session Classification:** Quantum Technologies for Fundamental Physics

Contribution ID: 34

Type: **not specified**

## Quantum Sensing for Axions/ALPs/sub-GeV DM

*Tuesday, 24 September 2024 16:20 (20 minutes)*

Including QSHS, QSNET, part of QI, part of AION (just the fact it is sensitive to ALPs and limits set referring to talk 3 for details) & one WP of QUEST, and topics beyond QTFP

**Presenter:** DAW, Ed (Sheffield)

**Session Classification:** Quantum Technologies for Fundamental Physics

Contribution ID: 35

Type: **not specified**

## **Quantum Sensing with Interferometry (laser and atom) for Gravitational Waves, Ultra Light Dark Matter, Tests of Quantum Mechanics and more**

*Tuesday, 24 September 2024 16:40 (20 minutes)*

GW, tests of QM, Quantization of spacetime, semiclassical & quantum gravity (AION all the details, part of QI)

**Presenter:** MITCHELL, Jeremiah (Cambridge)

**Session Classification:** Quantum Technologies for Fundamental Physics

Contribution ID: 36

Type: **not specified**

## **Quatum Sensing for Neutrino Mass, Black Holes, Early Universe Phase Transitions**

*Tuesday, 24 September 2024 17:00 (20 minutes)*

QTNM, QSimFP, the other WP of QUEST and beyond QTFP

**Presenter:** WATERS, David (UCL)

**Session Classification:** Quantum Technologies for Fundamental Physics

Contribution ID: 37

Type: **not specified**

## Quantum Technologies for Fundamental Physics Panel Discussion

*Tuesday, 24 September 2024 17:20 (40 minutes)*

Panel composed PI or rep of each QTFP project, STFC and Boulby Reps.

Panelists to include Ed Daw (QSHS), Ed Hardy (Theory), Jeremiah Mitchell (AION) Ruben Saakyan (QTNM), Andrew Casey (QUEST), Silke Weinfurter (QSimFP), Harmut Grote (QI), Rep(QSNET), Jason Green (STFC), Paul Scovell (Boulby), Ian Shipsey (QTFP moderator - to ask the questions)

**Presenter:** SHIPSEY, Ian (Oxford)

**Session Classification:** Quantum Technologies for Fundamental Physics

Contribution ID: **38**

Type: **not specified**

## **DIS landscape including EIC**

*Tuesday, 24 September 2024 11:30 (40 minutes)*

**Presenter:** NEWMAN, Paul (The University of Birmingham)

**Session Classification:** ep colliders

Contribution ID: 39

Type: **not specified**

## **Monte Carlo generators of lepton-hadron physics**

*Tuesday, 24 September 2024 12:10 (20 minutes)*

**Presenter:** KRAUSS, frank (ipp durham)

**Session Classification:** ep colliders



Contribution ID: 40

Type: **not specified**

## **PDFs and QCD at LHeC and other future ep colliders**

*Tuesday, 24 September 2024 14:00 (20 minutes)*

**Presenter:** GWENLAN, Claire (UCL)

**Session Classification:** ep colliders

Contribution ID: 41

Type: **not specified**

## **Higgs, EW and BSM at LHeC and other future ep colliders**

*Tuesday, 24 September 2024 14:20 (20 minutes)*

**Presenter:** D'ONOFRIO, Monica (University of Liverpool)

**Session Classification:** ep colliders

Contribution ID: 42

Type: **not specified**

## Discussion

*Tuesday, 24 September 2024 14:40 (20 minutes)*

**Presenter:** WING, Matthew (UCL)

**Session Classification:** ep colliders

Contribution ID: 43

Type: **not specified**

## Physics at 10 TeV pcm

*Tuesday, 24 September 2024 10:30 (25 minutes)*

**Presenter:** ENGLERT, Christoph (University of Glasgow)

**Session Classification:** Theory

Contribution ID: 44

Type: **not specified**

## Higgs Physics

*Thursday, 26 September 2024 10:00 (15 minutes)*

The potential of the HL-LHC for Higgs physics

**Presenter:** WARDLE, Nicholas (Imperial College London)

**Session Classification:** LHC exploitation

Contribution ID: 45

Type: **not specified**

## Electroweak, QCD and Top Physics

*Thursday, 26 September 2024 10:20 (15 minutes)*

The physics potential of the HL-LHC for Electroweak, QCD and Top Physics

**Presenter:** SHAW, kate (University of Sussex)

**Session Classification:** LHC exploitation

Contribution ID: 46

Type: **not specified**

## Quark Flavour Physics

*Thursday, 26 September 2024 11:30 (25 minutes)*

The quark flavour physics potential of the HL-LHC

**Presenter:** JOHNSON, Daniel

**Session Classification:** LHC exploitation

Contribution ID: 47

Type: **not specified**

## Physics beyond the Standard Model

*Thursday, 26 September 2024 10:40 (15 minutes)*

The potential of the HL-LHC for probing physics beyond the SM

**Presenter:** SINHA, Sukanya (University of Manchester)

**Session Classification:** LHC exploitation



Contribution ID: 48

Type: **not specified**

## Theory challenges

*Thursday, 26 September 2024 12:00 (25 minutes)*

Theory challenges for realising the HL-LHC programme

**Presenter:** KRAUSS, frank (ipp durham)

**Session Classification:** LHC exploitation

Contribution ID: 49

Type: **not specified**

## Closeout

*Thursday, 26 September 2024 16:35 (10 minutes)*

**Presenter:** Dr WILLIAMS, Sarah (University of Cambridge)

Contribution ID: 50

Type: **not specified**

## Welcome and introduction

*Monday, 23 September 2024 12:00 (10 minutes)*

**Presenter:** SPANNOWSKY, Michael (IPPP, Durham University)

**Session Classification:** Introduction

Contribution ID: 51

Type: **not specified**

## **The 2026 European Strategy for Particle Physics Update- overview of process**

*Monday, 23 September 2024 12:10 (15 minutes)*

**Presenter:** BORTOLETTO, daniela

**Session Classification:** Introduction

Contribution ID: 52

Type: **not specified**

## **Aims of the workshop, and plans for drafting the UK's national input**

*Monday, 23 September 2024 12:30 (20 minutes)*

**Presenter:** Dr WILLIAMS, Sarah (University of Cambridge)

**Session Classification:** Introduction

Contribution ID: 53

Type: **not specified**

## Computing infrastructure and middleware

*Thursday, 26 September 2024 09:00 (15 minutes)*

**Presenter:** DEWHURST, Alastair

**Session Classification:** Software + computing

Contribution ID: 54

Type: **not specified**

## Future Software Development

*Thursday, 26 September 2024 09:20 (15 minutes)*

**Presenters:** COSTANZO, Davide (University of Sheffield); HARPER, Sam

**Session Classification:** Software + computing

Contribution ID: 55

Type: **not specified**

## AI and bluesky technologies

*Thursday, 26 September 2024 09:40 (15 minutes)*

**Presenter:** SCANLON, Tim

**Session Classification:** Software + computing



Contribution ID: 56

Type: **not specified**

## Overview of 10 TeV pCM colliders

*Wednesday, 25 September 2024 16:20 (10 minutes)*

**Presenter:** KRIZKA, Karol (University of Birmingham)

**Session Classification:** 10 TeV pCM colliders

Contribution ID: 57

Type: **not specified**

## **BSM physics at 10 TeV pCM**

*Wednesday, 25 September 2024 16:35 (15 minutes)*

**Presenters:** D'ONOFRIO, Monica (University of Liverpool); Dr WILLIAMS, Sarah (University of Cambridge)

**Session Classification:** 10 TeV pCM colliders

Contribution ID: 58

Type: **not specified**

## Higgs and Top at 10 TeV pCM

*Wednesday, 25 September 2024 16:55 (30 minutes)*

**Presenter:** HOWARTH, James (University of Glasgow)

**Session Classification:** 10 TeV pCM colliders

Contribution ID: 59

Type: **not specified**

## Flavour physics at 10 TeV pCM

*Wednesday, 25 September 2024 17:30 (15 minutes)*

**Presenter:** VOLLE, Felicia (University of Birmingham (GB))

**Session Classification:** 10 TeV pCM colliders

Contribution ID: **60**

Type: **not specified**

## **QCD considerations at 10 TeV pCM**

*Wednesday, 25 September 2024 17:50 (15 minutes)*

**Presenter:** ANDERSEN, Jeppe (IPPP)

**Session Classification:** 10 TeV pCM colliders

Contribution ID: **61**

Type: **not specified**

## Overview of Neutrino Theory

*Thursday, 26 September 2024 14:30 (20 minutes)*

**Presenter:** TURNER, Jessica (IPPP, Durham University)

**Session Classification:** Neutrinos

Contribution ID: 62

Type: **not specified**

## **DUNE, now and in the future**

*Thursday, 26 September 2024 14:55 (20 minutes)*

**Presenter:** CREMONESI, Linda (Queen Mary University of London)

**Session Classification:** Neutrinos

Contribution ID: 63

Type: **not specified**

## **HK, now and in the future**

*Thursday, 26 September 2024 15:20 (20 minutes)*

**Presenter:** O'KEEFFE, Helen (Lancaster University)

**Session Classification:** Neutrinos



Contribution ID: 64

Type: **not specified**

## **Overview of 0nubb and other non-accelerator neutrino programmes**

*Thursday, 26 September 2024 15:45 (20 minutes)*

**Presenter:** PATRICK, Cheryl (University of Edinburgh)

**Session Classification:** Neutrinos

Contribution ID: 65

Type: **not specified**

## **Neutrino physics: what's our plan after DUNE and HK**

*Thursday, 26 September 2024 16:10 (20 minutes)*

**Presenter:** ROGERS, Chris (RAL)

**Session Classification:** Neutrinos

Contribution ID: 66

Type: **not specified**

## **Theory perspectives on the non-collider programme**

*Wednesday, 25 September 2024 15:00 (30 minutes)*

**Presenter:** BAUER, Martin (IPPP Durham)

**Session Classification:** Theory

Contribution ID: 67

Type: **not specified**

## **Hunting a Charged Higgs Boson pair in Proton-Proton Collisions**

*Monday, 23 September 2024 18:47 (1 minute)*

**Presenter:** HERRERA, Edwin (IPPP, Durham University)

**Session Classification:** Poster session and reception

Contribution ID: **68**

Type: **not specified**

## **Jet Flavour Tagging at FCC-ee/hh**

*Monday, 23 September 2024 18:48 (1 minute)*

**Presenter:** LAI, Wei Sheng (University College London)

**Session Classification:** Poster session and reception

Contribution ID: 69

Type: **not specified**

## Neutrinos Properties & Understanding the Universe

*Monday, 23 September 2024 18:49 (1 minute)*

**Presenter:** MARTINEZ SOLER, Ivan (IPPP)

**Session Classification:** Poster session and reception

Contribution ID: 70

Type: **not specified**

## Quantum Computing for Collider Physics

*Monday, 23 September 2024 18:50 (1 minute)*

**Presenter:** WILLIAMS, Simon (IPPP, Durham)

**Session Classification:** Poster session and reception

Contribution ID: 71

Type: **not specified**

## **Studies of CPV HZZ couplings at FCC-ee and FCC-hh**

*Monday, 23 September 2024 18:51 (1 minute)*

**Presenter:** SILVA, Júlia (University of Birmingham)

**Session Classification:** Poster session and reception



Contribution ID: 72

Type: **not specified**

## Introduction

*Monday, 23 September 2024 14:00 (7 minutes)*

**Presenter:** WILKINSON, Guy (University of Oxford)

**Session Classification:** e+e- colliders

Contribution ID: 73

Type: **not specified**

## Heavy Flavour Landscape

*Thursday, 26 September 2024 14:00 (25 minutes)*

**Presenter:** VAN DYK, Danny (IPPP Durham)

**Session Classification:** Theory