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Launch of ECR Flexi Fund Call: UK-HyRES - RHA Sprint Projects

Chris Brace, Rachael Rothman, Caroline Goddard

UK-HyRES
UK Hub for Research Challenges in
Hydrogen and Alternative Liquid Fuels

Agenda for Today:

- Introduction to UK-HyRES
- Introduction to the Henry Royce Institute and the Royce Hydrogen Accelerator
- Launch for the Flex Fund Call
- Q&A

UK-HyRES

UK Hub for Research Challenges in
Hydrogen and Alternative Liquid Fuels

UKRI Engineering and Physical Sciences Research Council

University of Bath

University of Sheffield

Warwick, The University of Warwick

University of St Andrews

UCL

University of Portsmouth

University of Surrey

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LinkedIn: https://linkedin.com/company/ukhyres

UK-HyRES

UK Hub for Research Challenges in **Hydrogen and Alternative Liquid Fuels**

Engineering and Physical Sciences Research Council

- **UK Hub for Research Challenges in Hydrogen and Alternative Liquid Fuels** (ref EP/X038963/1)
- Five-year, £10.7M EPSRC national research hub led by the University of Bath from 1/6/23

UK-HyRES Team at the Launch Meeting, September 2023

The flagship UK-HyRES Hub **identifies, prioritises & delivers sustainable & practical solutions to fundamental research challenges** that must be addressed to ensure widespread adoption and deployment of hydrogen & alternative liquid fuels to meet Net Zero 2050.

UK-HyRES provides an integrated **network & collaboration** platform for UK research & innovation communities & international partnering.

16	58	40+	£27.1m
Universities	**Staff & Students**	**Partnerships**	**Funding**

www.ukhyres.ac.uk

Meet the Team

Emeritus Prof Tim Mays
Founding Director
University of **Bath**

UK-HyRES
UK Hub for Research Challenges in **Hydrogen and Alternative Liquid Fuels**

Director

Prof Chris Brace
University of **Bath**

Co-Directors

Prof Rachael Rothman
University of **Sheffield**

Prof Shanwen Tao
University of **Warwick**

Prof Mi Tian
University of **Bath**

Associate Directors

Prof Marcelle McManus
University of **Bath**

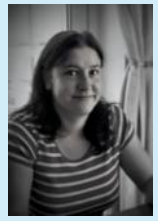
Prof Chris Bowen
University of **Bath**

Prof Sam Akehurst
University of **Bath**

Project Administration

June Mercer-Chalmers
University of **Bath**

Ellie Collier
University of **Bath**



Carla Teale
University of **Sheffield**

Husnara Islam
University of **Warwick**

Co-Investigators

Prof Qiong Cai
University of **Surrey**

Prof John Irvine
University of **St Andrews**

Prof Paul Dodds
UCL

Dr Chris Jones
University of **Portsmouth**

Professor Joan Cordiner
University of **Sheffield**

Dr Alasdair Campbell
University of **Sheffield**

PDRA Research Team

Dr Rajan Jagpal
University of **Bath**

Dr Harmanpreet Singh,
University of **Sheffield**

Dr Selda Özkan
University of St **Andrews**

Dr Louisa Wood,
University of **Portsmouth**

Dr Rob Pilling,
University of **Sheffield**

Dr Sibimol Luke
ECR Ctte Chair
UCL

Chris Kim
UCL

Dr Huimin Zhang,
University of **Warwick**

Dr Josh Kassongo,
University of **Sheffield**

Dr Alex Newman,
University of **Sheffield**

Hub Themes and Projects

UK-HyRES
UK Hub for Research Challenges in Hydrogen and Alternative Liquid Fuels

Technical Themes

Projects

Cross-cutting Themes

Co-I

TT1: Production
John Irvine

Associate Director & Co-I

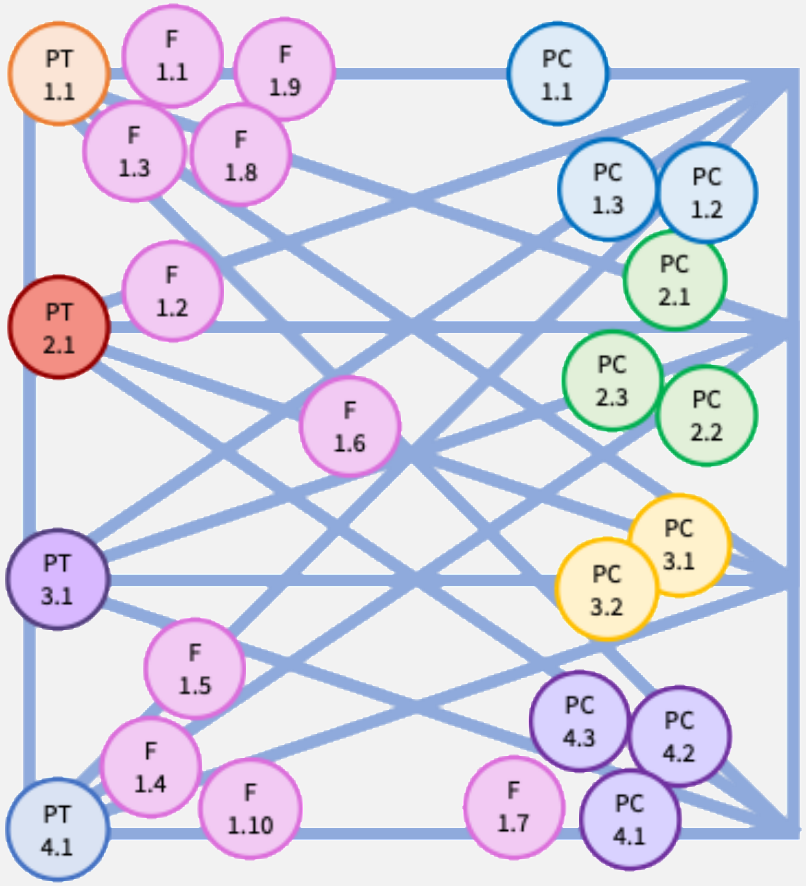
TT2: Storage & Distribution
Tim Mays/Mi Tian

Co-I

TT3: End Use
Qiong Cai

Co-Director & Co-I

TT4: Alternative Liquid Fuels
Shanwen Tao



CT1: Economic
Paul Dodds

Co-I

CT2: Environmental
Rachael Rothman

Co-Director & Co-I

CT3: Social
Chris Jones

Co-I

CT4: Safety
Joan Cordiner

Co-I

UK-HyRES Flexi Fund

UK-HyRES
UK Hub for Research Challenges in Hydrogen and Alternative Liquid Fuels

- Total Flexi Fund pot £5.7m
- **Flexi Fund Call 1**
  - Collaborative research projects with Industry support
  - 10 projects funded
  - Total value £2.9m
- **Flexi Fund Call 2**
  - Dedicated call for ECRs
  - Two parts
    - UK-HyRES Research Fellowships
    - UK-HyRES – RHA ECR Sprint projects
- **Flexi Fund Call 3**
  - Coming in late 2026
  - Likely to focus on research projects and translation

Flexi Fund Call 2 – ECR Focus

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- The lead applicant (Project Lead, PL) must be an Early Career Researcher (ECR), where ECR is defined as:
  - a postdoctoral researcher, application scientist (or similar) or a lecturer/assistant professor within their first three years of appointment. The ECR does not need to have a current role at the host institution, but must have the support of the host institution.
  - The PL should not have previously received funding in excess of £100k.
- Both strands of the call have a strong focus on ECR development
  - Both parts require the ECR to have mentors in place

UK-HyRES Research Fellowships

- Three fellowships will be awarded
- Max £225k at 80% FEC
- Call opened December 2025
- Max duration 18 months
- Low TRL research
- Two stage submission process
  - Outline submission
  - Full submission with interview

UK-HyRES – RHA Sprint Projects

- Max fund size £600k – £800k
- Max £50k at 80% FEC per project
- Call opens today
- Projects must finish by 31/12/26
- Low TRL research or higher TRL translation
- Single stage submission process

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Henry Royce Institute
Royce Hydrogen Accelerator

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National institute with regional footprint

Bragg Centre for Materials Research, **University of Leeds**

University of Strathclyde

Translation & Discovery Centres, **University of Sheffield**

Central Laboratory, **National Nuclear Laboratory**

Cranfield University

Materials Innovation Factory, **University of Liverpool**

Maxwell Centre, **University of Cambridge**

Royce Hub Building, **The University of Manchester**

Uren Building, **Imperial College London**

Centre for Energy Materials Research, **University of Oxford**

Materials Research Facility **UKAEA**

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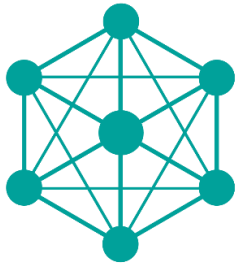
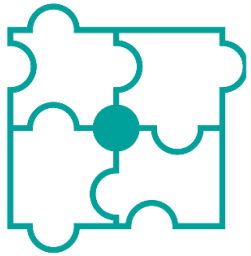
Royce Mission Pillars



Enabling national materials research foresighting, collaboration and strategy

Catalysing industrial collaboration and exploitation of materials research

Providing access to the latest facilities and capability



Fostering materials science skills development, innovation, training and outreach

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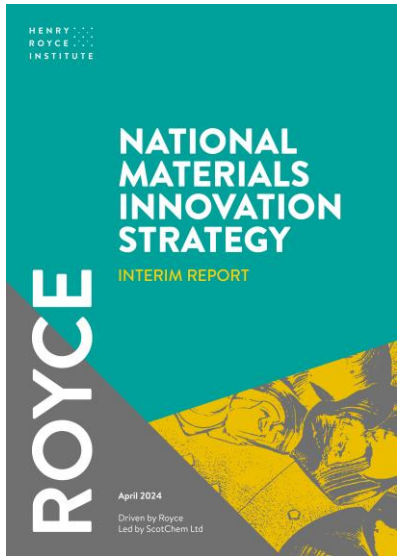
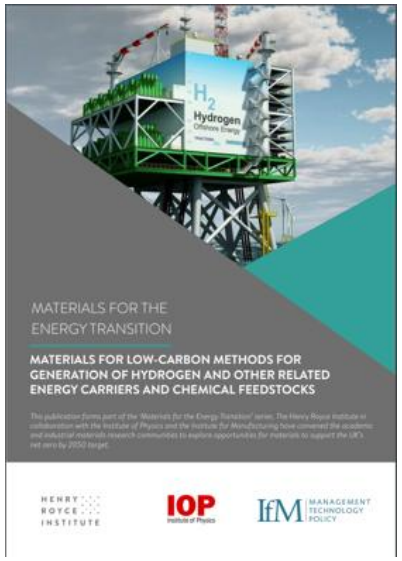
Strategy and Roadmaps

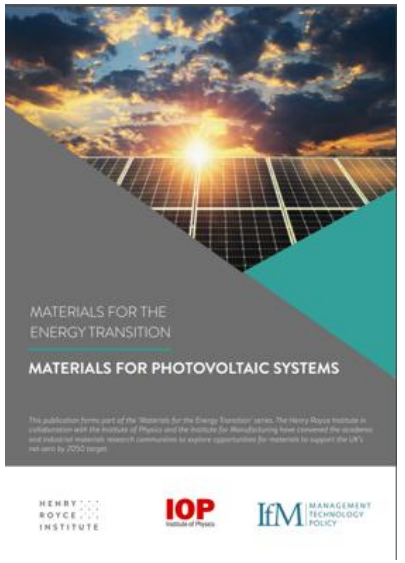
National Materials Innovation Strategy

Roadmaps

- Materials for the Energy Transition
- Materials for Fusion
- Degradation in Structural Materials for Net-Zero
- Materials for End-to-End Hydrogen
- Materials 4.0: Digitally-enabled materials discovery and manufacturing







Access to world-leading facilities

£105M **new equipment** procured and installed

>£130M New **buildings** and laboratory fit-outs delivered

400 pieces of **equipment** set up as **facilities**

25,000 hours p/a of **equipment access** by external users

Providing access to over **400 items of equipment**

Enabling collaboration across our diverse national facilities

Researcher and Student Equipment Access Schemes

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Industrial Collaboration and Technology Translation

Enhanced Engagement with Industry

Strategic relationship with large industry

Tailored support to wider SME community

Lab-to-Business Platform

Fast pathways for commercialisation

Alignment of innovation with market demand

Upstream feeder system with entrepreneurial education

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Growing portfolio of Programmes and Activities

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MATcelerate ZERO

ROYCE HYDROGEN ACCELERATOR

SUSTAINABLE MATERIALS INNOVATION HUB

FISC Foundation Industries Sustainability Consortium

Mats

INDUSTRIAL COLLABORATION PROGRAMME

CEAMS Centre of Expertise in Advanced Materials and Sustainability

TATA STEEL

DMEx Defence Materials Centre of Excellence

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Royce Hydrogen Accelerator

ROYCE HYDROGEN ACCELERATOR

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Mission: ***To drive materials translation in the hydrogen eco-system to enrich the UK economy***

- Looking for solutions that unlock a materials challenge constraining hydrogen supply chain
- Setting up mechanisms to bridge the innovation gap between laboratories and deployment

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Setting up Support Mechanisms

ROYCE HYDROGEN ACCELERATOR

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UK-HyRES – RHA Early Career Researcher Sprint Projects

UK-HyRES – RHA ECR Sprint Projects

Purpose: We want to support talented early career researchers and innovators who are transitioning to research or innovation leadership

Duration: Projects should start between 20/4/26 and 1/6/26 and finish by 31/12/26

Funding Available:

- The 100% Full Economic Cost (FEC) of your proposal can be up to £62,500
- Projects will be funded based on 80 % of FEC, i.e. max £50,000.
- Eligible costs include staff costs, consumables, travel and subsistence
- Equipment costs are not eligible

Requirements

Mentors: must be included (academic and/or industrial) to support the research and skills development. Any commitment should be confirmed with a letter of support. We can help match potential applicants to mentors if needed.

Support: A letter of support from the ECR's line manager or Head of School/Department should be included to confirm support of the time commitment of the ECR as laid out in the costing

Research should…

- The research must be about the production, storage, distribution or use of hydrogen or ammonia
- Research into fuel cells and the production of grey or blue hydrogen is out of scope of this call
- Research should not duplicate research already funded by UK-HyRES or the Royce Hydrogen Accelerator

Examples

- **Improving supply chain resilience and lower cost** of producing, handling, storing and using H&ALFs
  - *Reduced use of rare earth minerals, novel membranes, novel manufacturing techniques, sealing and permeation reduction, increase efficiency, mixed feedstocks, recycling materials, proton conduction ceramics*
- **Improving energy consumption and existing catalyst performance** for production of chemicals and fuels which use green H&ALFs
  - *SAF, marine fuels, chemicals (e.g., ammonia, methanol), carriers (e.g., ammonia, methanol, LOHC, etc.)*
- **Understanding and improving reliability and durability of materials** involved in producing, handling, storing and using H&ALFs
  - *Life prediction, materials discovery, accelerated testing methodology and materials selection*
- **Improve safety and monitoring** when producing, storing and handling H&ALFs
  - *Low-cost sensors, hydrogen getters, H_2 purity*

How to Apply

- Deadline 23rd February 17:00
- Fill in MS Teams form (linked in call document)
  - Project Lead details
  - Summary of dates and funding
  - Scope: TRL 1-3, TRL3+, wide range TR
  - Eligibility Criteria (employment history and funding won)
  - 3 page case for support
    - Vision and summary
    - Programme of work
    - Likely impact
    - Fit to call
    - Project management
    - PL track record
    - Mentoring support
    - Justification of resources
  - Letters of Support
  - Costing details

Review Criteria – Overview

Proposals will be reviewed on:

- Quality and novelty and/or impact
- Development, training, support and mentorship of the PL
- Clear plans for proposed research, project management, engagement, EDI, skills development and impact
- Ambition to develop the research into larger, longer funding proposals with clear industrial or other relevance or impact

Terms & Conditions

- Standard UKRI T&Cs apply
- UK-HyRES and Royce branding and appropriate acknowledgements should be used on all outputs

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www.royce.ac.uk/collaborate/hydrogen-accelerator/

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