**Knowledge Exchange Hub**
*for Mathematical Sciences*

**HoDoMS Annual Conference 2023**
**27-28 April 2023**

# An introduction to the KE Hub and KEF

**Rachael Harris**
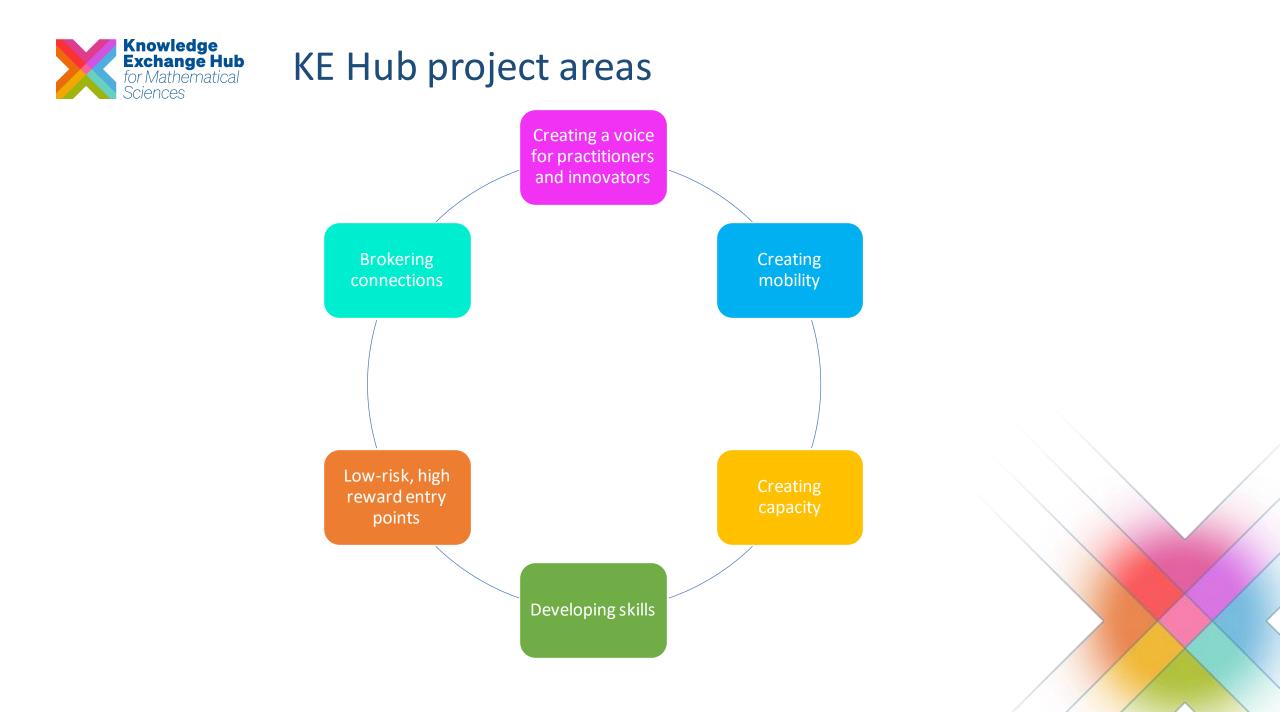**Isaac Newton Institute for Mathematical Sciences**

The new **UK Knowledge Exchange Hub for Mathematical Sciences (KE Hub)** has been developed as a response to the Bond "Era of Mathematics" review, which recommended that *"a national centre in impactful mathematics for the UK should be created to work with industry and government to drive mathematical research through to commercialisation"*.

The Isaac Newton Institute for Mathematical Sciences (INI) at the University of Cambridge received EPSRC funding for setting up the KE Hub for the initial 2-3 year period, but the hub is a **UK wide initiative.**

# KE Hub Aims

| Scale up | Connect | Support | Deliver | Coordinate |
|----------|---------|---------|---------|------------|
| Massively scale up KE activity in the UK, leveraging the experience of the mathematical science national infrastructure | Draw together researchers, practitioners, end-users and professionals into Forums which interface with the various activities | Support existing activity in the community whilst growing the network by nurturing untapped pool of researchers, practitioners, and end-users | Deliver activities through linked projects overseen by a central team | Coordinate support for mathematical science KE projects from beginning to end |

Knowledge Exchange Hub for Mathematical Sciences

# KE Hub project areas

# Initial activities of the KE Hub

# Knowledge Exchange Champions Congress

- The KE Hub's initial activities include establishing a KE Champions' congress, offering seed funding for some KE activities, and providing easy-to-access signposting of opportunities to engage in KE activities, in order to benefit Mathematical Sciences departments across the UK.

- We will invite every mathematical sciences department in the UK to nominate a Knowledge Exchange Champion to lead that department's engagement with the KE Hub.
- 2 way conduit
  - Sharing KE activities with colleagues and supporting them with KE
  - Feed back to the KE Hub the bespoke requirements of the department and it's KE ambitions.

- Less experienced KE champions will be offered a mentor and an initial workshop to provide, help support and underpinning knowledge.
- KE Champions will come together to form a National Congress, which will meet once per year in order to share successes, highlight opportunities, and nurture relationships.
- We strongly encourage nominations from under-represented groups within the Mathematical Sciences for the Knowledge Exchange Champions, to ensure that the KE Congress has a diverse makeup.

# How can HoDoMS be involved?

- Next week a short **survey** from the KE Hub will be sent out via the HoDoMS mailing list, which we will use to help steer the activities of the KE Hub to provide the most effective support & opportunities to departments.

- The survey will go out to Heads of Departments but may need to be passed on to others in your department or in the professional services teams for some of the questions.

- We are requesting responses **by 31$^{st}$ of May.**

- The announcement of nominations for the **KE champions congress** will also launch next week along with various opportunities and activities to follow in the next few weeks.

- The KE Hub will officially **launch** later this year.

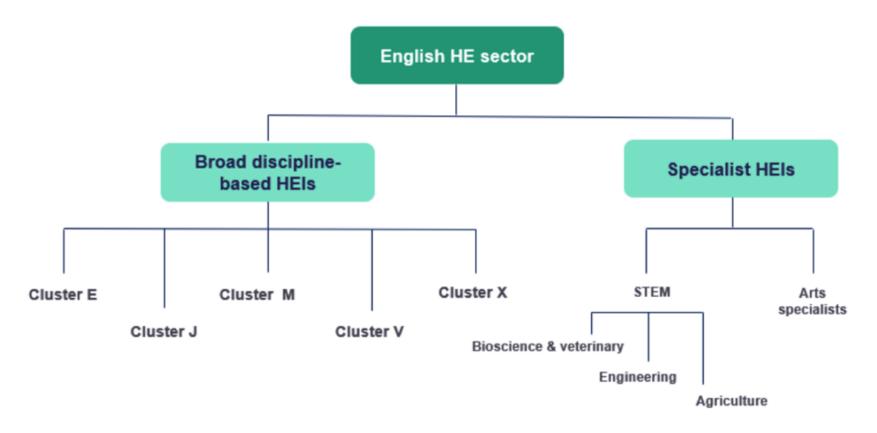- A **website** is due to go live in the next month

# What is the Knowledge Exchange Framework (KEF)?

- The Higher Education Funding Council for England (HEFCE) was commissioned to provide more information about Higher Education Institute's (HEIs) achievements in serving the economy and society for the benefit of the public, businesses & the community

- The UKRI Knowledge Exchange Framework (KEF) provides a range of information on the knowledge exchange activities of HEIs in England.

- The KEF uses the term Knowledge Exchange to refer to the wide range of activities HEIs undertake with partners.

- The KEF website & dashboards are an excellent resource that allows anyone to explore and examine the data and explanations of the ways HEIs work with their external partners. https://kef.ac.uk/dashboard

# KEF Clusters



In order to make the data meaningful in relation to different types and sizes of providers they have grouped all providers into 'clusters' of providers where organisations with similar capacity for undertaking knowledge exchange are together.

# KEF Clusters

**CLUSTER E**

Large universities with broad discipline portfolio across STEM & non-STEM generating excellent research across all disciplines

**CLUSTER J**

Mid-sized universities with more of a teaching focus

**CLUSTER M**

Smaller Universities, often with a teaching focus. Academic activity particularly in health domains and non-STEM

**CLUSTER V**

Very large, very high research intensive broad discipline universities under taking significant amounts of excellent research

**CLUSTER X**

Large, high research intensive & broad discipline universities undertaking a significant amount of excellent research

**ARTS**

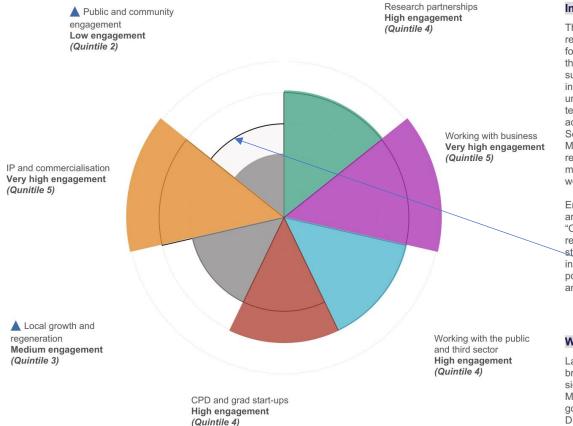Specialist institutions covering Arts, Music & Drama

**STEM**

Specialist institutions in Science, technology, Engineering & mathematics. High amounts of excellent research

# KEF Perspectives



Each segment below shows the relative strength of the selected provider for each KEF perspective, compared against the average for the cluster they are a member of (as denoted by black quintile line). Tap or hover over a segment to show the links to the dashboard for each perspective. Segments are displayed using quintiles; for example, a segment that reaches the outer edge of the chart shows that the selected provider has very high engagement (quintile 5) for that perspective.

▲ Public and community engagement
**Low engagement**
*(Quintile 2)*

Research partnerships
**High engagement**
*(Quintile 4)*

Working with business
**Very high engagement**
*(Quintile 5)*

IP and commercialisation
**Very high engagement**
*(Qunitile 5)*

▲ Local growth and regeneration
**Medium engagement**
*(Quintile 3)*

Working with the public and third sector
**High engagement**
*(Quintile 4)*

CPD and grad start-ups
**High engagement**
*(Quintile 4)*

▲ **Supporting narrative statement avaliable**. Tap or hover over the chart segment to show a summary of the narrative, and a link to the full version.

## Institutional Context

The University of Bath is a research-intensive institution, whose founding principle is advancing knowledge through working in partnership with others, in support of the global common good. We are in the top 10 for all three of the UK's national university league tables. Our research, teaching and knowledge exchange (KE) activities focus on our academic strengths in Science, Technology, Engineering, Management and Social Sciences, with research foci around key theme areas of mobility, sustainability, digital and health and wellbeing.

Engagement, partnership and collaboration are at the heart of our University mission: "Our mission is to deliver world-class research and teaching, educating our students to become future leaders and innovators, and benefiting the wider population through our research, enterprise and influence".

Read the full institutional context
(opens in new window)

## Who are Cluster X ?

Large, high research intensive and broad-discipline universities undertaking a significant amount of excellent research. Much of research funded by UKRI and other government bodies; 8.5% from industry. Discipline portfolio balanced across STEM and non-STEM although less clinical medicine activity. Large proportion of taught postgraduates in student population.

Perspectives:

- Research partnerships
- Working with business
- Working with the public & the third sector
- CPD and grad start-ups
- IP and commercialisation
- *Local growth and regeneration*
- *Public & community engagement*

Line indicating cluster average

# KEF Reporting

- Timeline:

| KEF | KEF 2 | KEF 3 |
|---|---|---|
| Results published in March 2021 | Launched in September 2022 | Due to be published in September 2023 |

- Much of the data for the KEF metrics is taken from the Higher Education Provider Data: Business & Community Interaction (HE-BCI) survey submitted by institutions annually. Research England also uses data submitted from HE-BCI to determine the Higher Education Innovation Fund (HEIF) allocated to institutes annually, which is a valuable resource in supporting KE activities across a HEI.

- KEF is designed to be discipline agnostic. The aim is to provide institution level data that presents an overview of how an institute performs as a whole in KE. This can then be meaningfully compared between peers, within a cluster.

- There are different disciplines that lend themselves more readily to different forms of KE activity, the focus on the KEF is the KE activity itself and not the subject area.

- The KE Hub will focus on areas more relevant to mathematical sciences, such as Business and Government engagement

# Get in touch

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https://www.newton.ac.uk/outreach/ongoing-initiatives/knowledge-exchange-hub-for-mathematical-sciences/