

Innovate UK Knowledge Transfer Network (Innovate UK KTN)

Dawn Geatches 9th Jan 2024 dawn.geatches@iuk.ktn-uk.org

Knowledge Transfer Manager for Mathematical Sciences

<https://iuk.ktn-uk.org/>



Japanese concept of ikigai

“The reason
why you get up
in the morning”

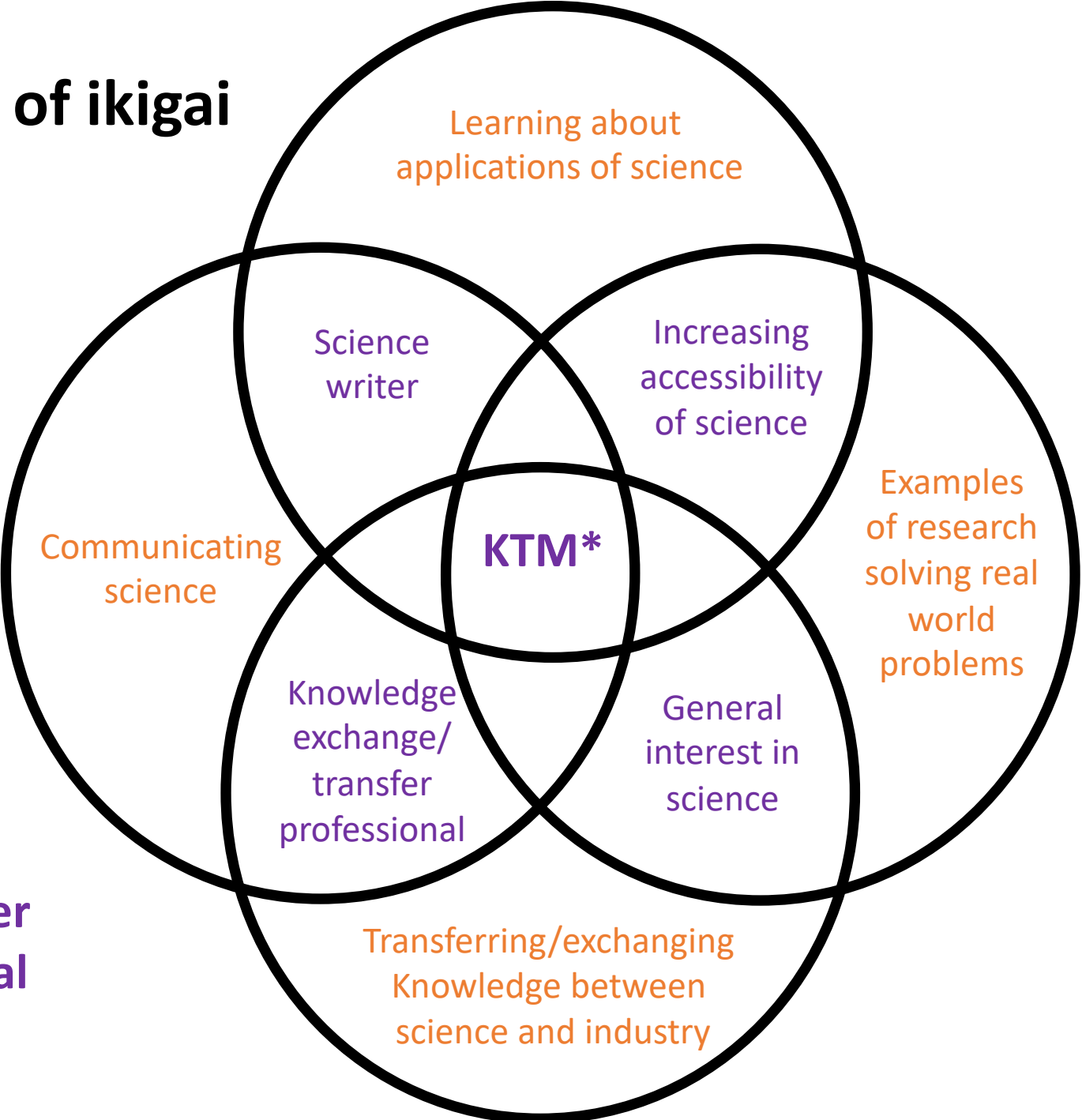


<https://becomingbetter.org/ikigai/>

Japanese concept of ikigai



KTM*
**Knowledge
Transfer Manager
for Mathematical
Sciences**



Knowledge Transfer/Exchange

Transfer



“...**Knowledge transfer and exchange** is the act of **moving research knowledge into action**. It is best understood as a **dynamic** and **iterative** process that includes:

- (i) knowledge synthesis,
 - (ii) dissemination of research findings,
 - (iii) knowledge exchange,
 - (iv) the ethically sound application of research findings in order to improve policy and practice (Canadian Institutes of Health Research [CIHR], [2012 http://www.cihr-irsc.gc.ca/e/39033.html](http://www.cihr-irsc.gc.ca/e/39033.html)).
- Knowledge transfer and exchange involves many stakeholders, among them researchers, policy makers, practitioners, research institutions, and funders...”

Exchange



“...**Knowledge exchange** can be defined as a **collaborative, creative endeavour** that **translates knowledge and research into impact** in society and the economy. KE includes a set of activities, processes and skills that enable close collaboration between universities and partner organisations to:

- (i) deliver commercial,
- (ii) environmental,
- (iii) cultural and
- (iv) place-based benefits, opportunities for students and increased prosperity...”

Knowledge Exchange, Transfer and Funding Opportunities for Mathematical Sciences



InnovateUK
KTN



The Innovate UK System

Innovate UK, Innovate UK KTN & Innovate UK EDGE



Launched in April 2018, UKRI is a non-departmental public body sponsored by the Department for Business, Energy and Industrial Strategy (BEIS).



> 8,000 employees

Innovate UK System



Innovate UK

Innovate UK is the UK's innovation agency: a non-departmental public body operating at arm's length from the Government as part of UKRI.



Innovate UK KTN

Innovate UK KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking - accelerating ambitious ideas into real-world solutions.



EDGE

Innovate UK EDGE empowers innovation-driven businesses to grow at pace and achieve their industry- and society-transforming ambitions.

Innovate UK KTN

**Innovate
UK KTN
Team**





About Us

Innovate UK KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.



What do we do as an organization?

Innovate UK KTN can help you accelerate your innovation

- by **connecting** ideas, people and communities to respond to challenges
 - we connect innovative businesses to help build collaborations and consortia;
- by **introducing** you to new business partners,
 - we make introductions through our events and networks;
- by **helping** you find collaborators for grants and project delivery
 - we will want to **understand** what your innovation and business needs are;
 - our communities are built around established and emerging ideas, technologies and sectors.

How do we do this?

We will work with you **collaboratively** in a number of ways:

- we come from broad **commercial** and **research** backgrounds and many have cross-cutting sector expertise, so can support companies looking to work with or innovate in multiple sectors and across regions;
- we can help you with your **funding** and finance journey;
- we can **signpost** you to grants and funding competitions;
- through our investor network we can also **advise** you on how to engage with business angels and venture funds;
- we can **introduce** you to new market opportunities and customers.



Our Work

Explore the diverse range of UK industries supported by KTN.

[AgriFood →](#)

[Chemistry →](#)

[Design →](#)

[Electronics →](#)

[Geospatial →](#)

[Industrial Maths →](#)

[Manufacturing →](#)

[Photonics →](#)

[Robotics & AI →](#)

[Sensors →](#)

[Transport →](#)

[Covid-19 →](#)

[Innovation →](#)

[Knowledge Transfer Partnerships →](#)

[Biotechnology →](#)

[Creative Industries →](#)

[Digital →](#)

[Energy →](#)

[Health →](#)

[Infrastructure →](#)

[Materials →](#)

[Quantum →](#)

[Security & Defence →](#)

[Space →](#)

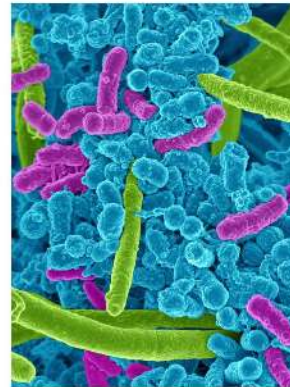
[Water →](#)

[Global Alliance →](#)

[Investment →](#)

[Sustainability →](#)

Featured Sector Information



Exploring Microbiome Innovation: Insights from the Microbiome One Health Conference

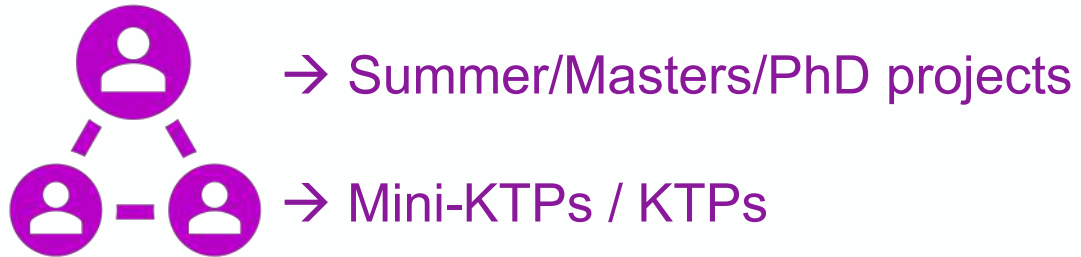
Over 100 microbiome researchers and innovators gathered in Glasgow in March 2023 for the...

[Read more →](#)

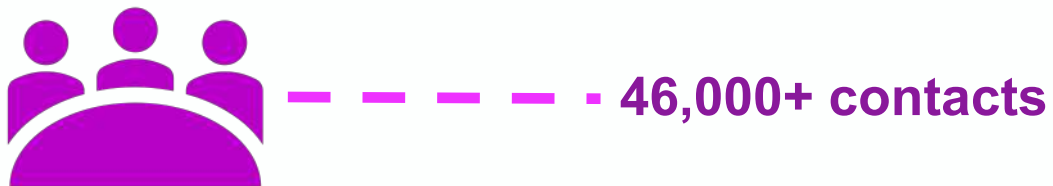


Mathematical Sciences – Activities

❑ Direct Connections to other organisations



❑ Participating in Advisory Groups



❑ Providing Letters of Support



❑ Support to organize and run KE/KT events



Mathematical Sciences – Activities

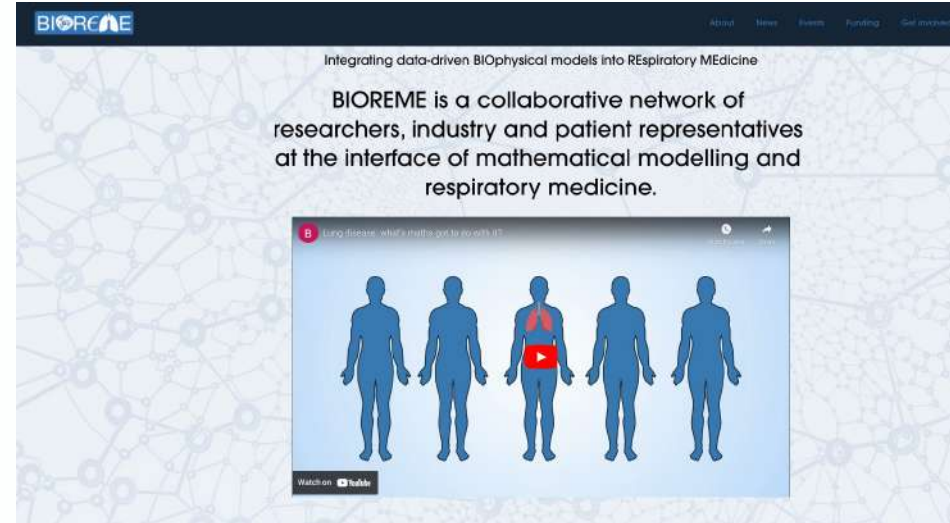
Organising and supporting Maths Study Groups



The screenshot shows the V-KEMS website's 'Activities' page. The header includes 'V-KEMS' and navigation links for Home, News, Publications, Activities, Upcoming Events, and Contact Us. The main heading is 'V-KEMS Activities'. Below this, there is a section titled 'Activities' with a sub-heading 'Webinars/Scoping Meetings'. The text describes the infrastructure for hosting webinars and scoping meetings, and mentions that V-KEMS provides support for the mathematical sciences community in the UK. A 'Virtual Study Groups' section is also visible, describing a potential way forward from mathematical support and/or webinars.



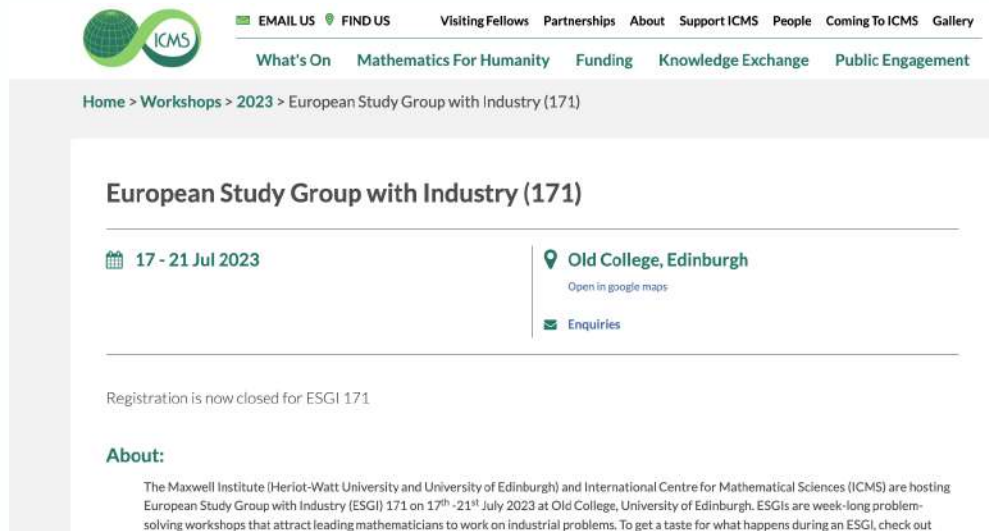
<https://www.vkemsuk.org/>



The screenshot shows the BIOREME website. The header includes 'BIOREME' and navigation links for About, News, Events, Funding, and Get involved. The main heading is 'Integrating data-driven BIOphysical models into RESpiratory Medicine'. Below this, there is a section titled 'BIOREME is a collaborative network of researchers, industry and patient representatives at the interface of mathematical modelling and respiratory medicine.' A video player is embedded, showing a presentation slide with five human silhouettes and a red play button icon.



<https://www.bioreme.net/news/study-group>



The screenshot shows the ICMS website. The header includes the ICMS logo and navigation links for EMAIL US, FIND US, Visiting Fellows, Partnerships, About, Support ICMS, People, Coming To ICMS, and Gallery. Below this, there is a section titled 'European Study Group with Industry (171)'. The dates are '17 - 21 Jul 2023' and the location is 'Old College, Edinburgh'. There is a link to 'Enquiries'. The text below the section states: 'Registration is now closed for ESGI 171'. The 'About:' section describes the Maxwell Institute (Heriot-Watt University and University of Edinburgh) and International Centre for Mathematical Sciences (ICMS) are hosting European Study Group with Industry (ESGI) 171 on 17th-21st July 2023 at Old College, University of Edinburgh. ESGIs are week-long problem-solving workshops that attract leading mathematicians to work on industrial problems. To get a taste for what happens during an ESGI, check out

<https://www.icms.org.uk/workshops/2023/european-study-group-industry-171>



Funding Opportunities



Innovate UK BridgeAI

<https://iuk.ktn-uk.org/programme/bridgeai/>



BridgeAI

BridgeAI is an Innovate UK
funded programme,
delivered by a consortium



£100m

Funding available



4

High growth
potential sectors

Agriculture
Transport
Construction
Creative Industries



The
Alan Turing
Institute

bsi.

BridgeAI



General funding opportunities

<https://iuk.ktn-uk.org/opportunities/>

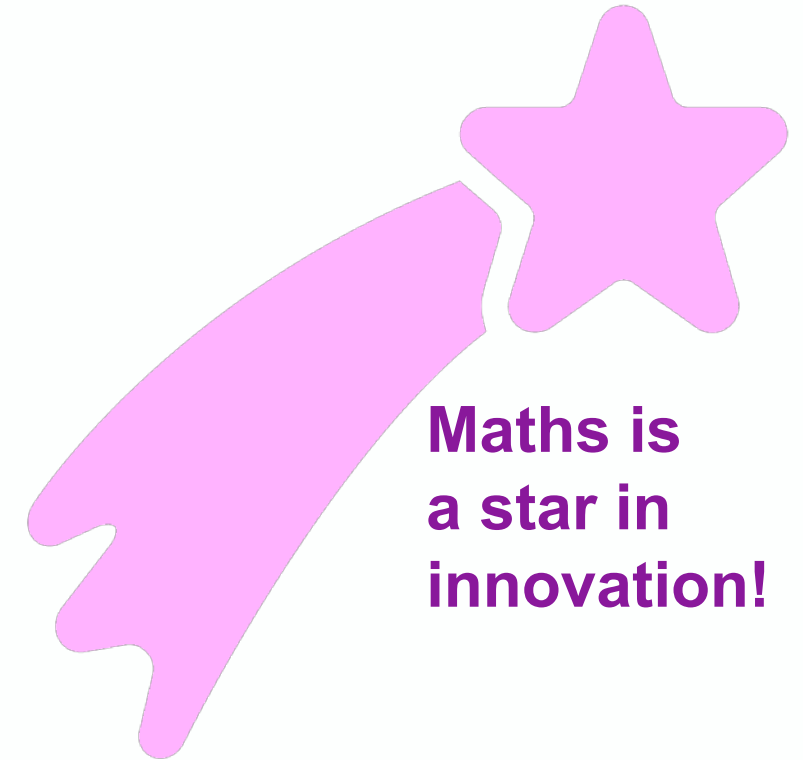
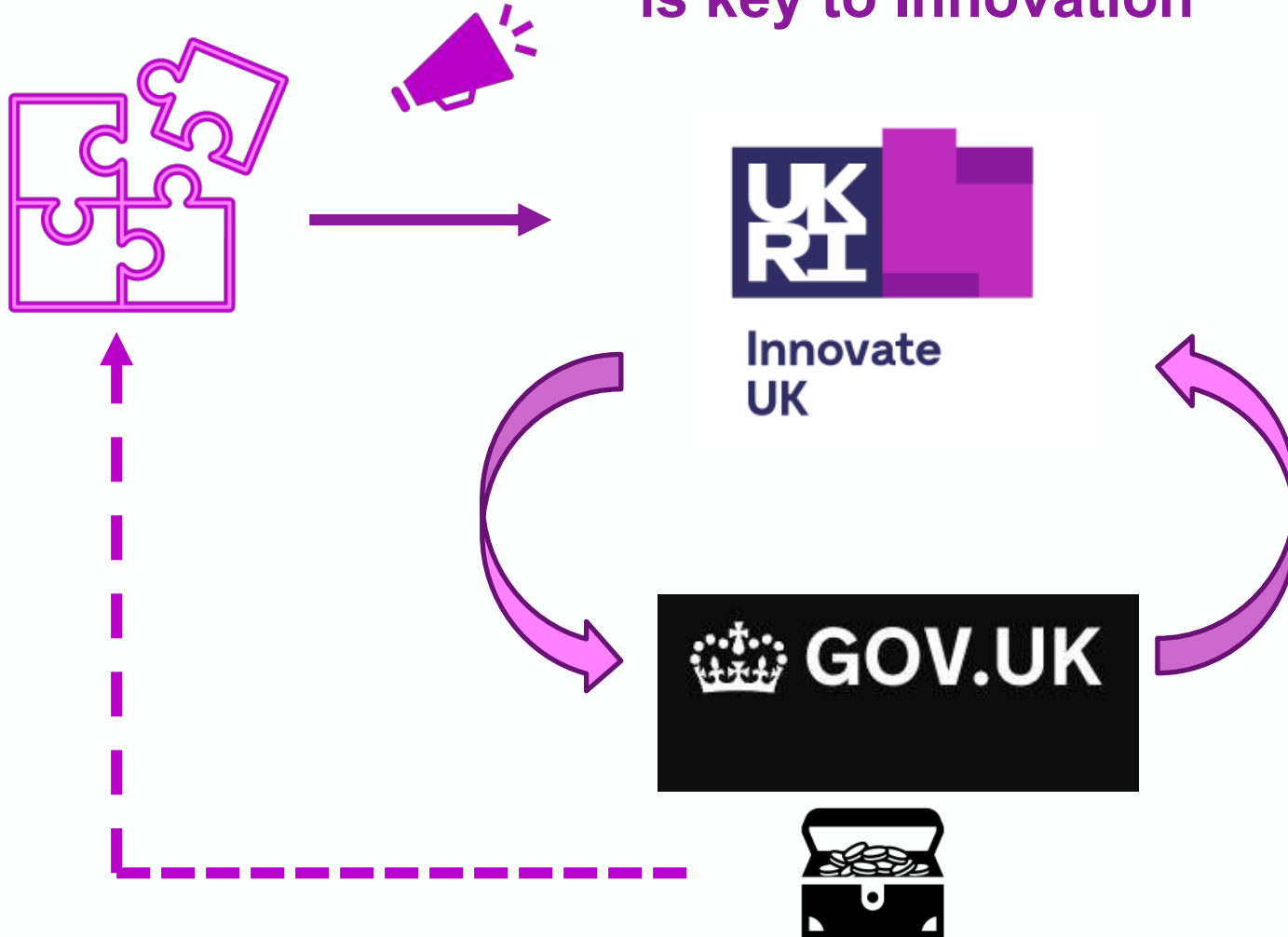
European Union
Global
International
Local
National
Regional

Organisations:
All Organisation: ▾

<p>UK - Germany Bilateral: Collaborative R&D Round 2</p> <p>Opens: 04/09/2023 Closes: 06/12/2023</p> <p>UK registered organisations, with a German SME collaborator, can apply for a share of up to £4...</p> <p>More Information →</p>	<p>Innovation in Professional & Financial Services Round 2</p> <p>Opens: 01/08/2023 Closes: 27/09/2023</p> <p>UK registered businesses can apply for a share of up to £5m to develop new products and services...</p> <p>More Information →</p>	<p>Canada-UK: Biomanufacturing of Biologics and Advanced Therapies</p> <p>Opens: 26/06/2023 Closes: 17/10/2023</p> <p>UK registered organisations can apply for a share of up to £3.5m to collaborate with Canadian SMEs o...</p> <p>More Information →</p>
<p>Innovation Exchange challenge: Intelligent Surveillance</p>	<p>Innovate UK Investor Partnerships: SME round 4</p>	<p>Innovate UK Investor Partnerships: Investor Selection</p>

Mathematical Sciences – Message to Innovate UK and beyond

Mathematical Sciences
is key to Innovation





<https://apply-for-innovation-funding.service.gov.uk/competition/1719/overview/b45c28c8-bced-4e87-96ba-69cc10ed15ca>

Funding competition

Innovate UK Smart Grants September 2023 [\(Rolling call\)](#)

UK registered organisations can apply for a share of up to £25 million for game-changing and commercially viable R&D innovations that can significantly impact the UK economy. This funding is from Innovate UK, part of UK Research and Innovation.

Competition opens: Thursday 28 September 2023

Competition closes: Wednesday 17 January 2024 11:00am

[Start new application](#)

Innovate UK Analysis for Innovators



<https://iuk.ktn-uk.org/programme/analysis-for-innovators/>

- Since March 2022, the Newton Gateway has been a [Partner](#) in the Innovate UK Analysis for Innovators Programme
- This Programme gives UK businesses of any size access to cutting-edge R&D expertise and facilities to help solve problems that they have been unable to tackle using standard technologies and techniques.
- The Gateway:
 - Connects businesses with the most appropriate mathematical and statistical modellers
 - Provides the contractual hub for specific programme projects with the UK academic mathematical scientists
 - Facilitates other engagement mechanisms to help broker interaction with mathematical science research expertise more widely





Innovate UK Analysis for Innovators

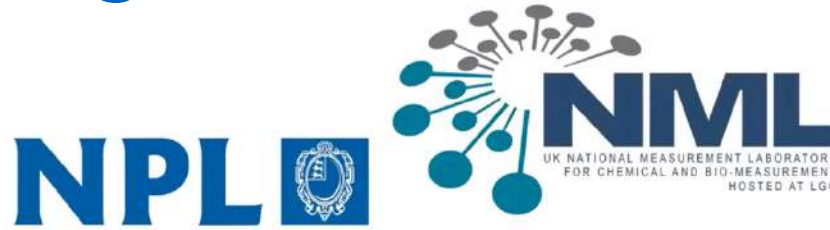
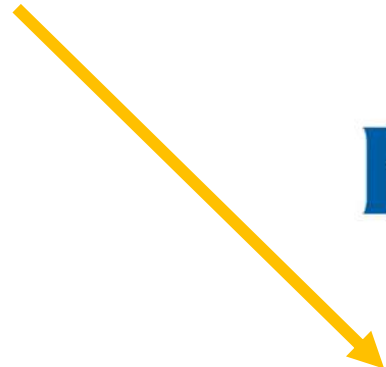
<https://iuk.ktn-uk.org/programme/analysis-for-innovators/>



Contacts

Clare Merritt: c.merritt@newton.ac.uk

Claire Bonner: c.bonner@newton.ac.uk



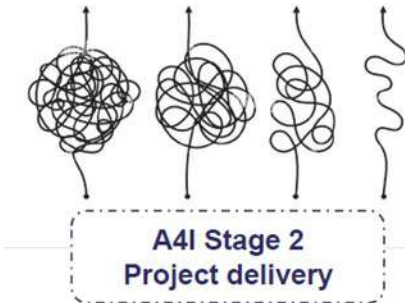
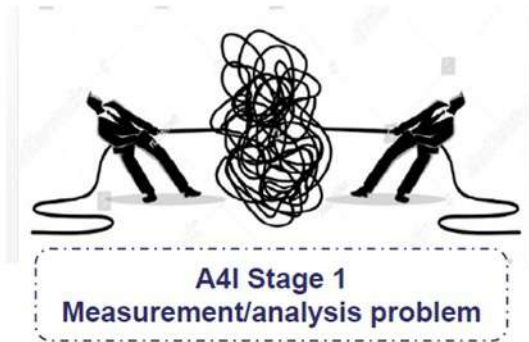
National Engineering Laboratory



<https://www.a4i.info/a4i-partners/>



Innovate UK Analysis for Innovators



Innovation Exchange Programme



<https://iuk.ktn-uk.org/programme/innovation-exchange/#goto-how-to-apply>

Innovation Exchange

Innovate UK KTN's Innovation Exchange is a cross-sector programme supporting innovation transfer by matching industry challenges to innovative companies from other sectors. It does this by putting large businesses with technical needs in contact with companies who have the right innovative solutions, for faster development of novel solutions.



Academics can apply, but they **MUST** provide a **solution** and **NOT** expect to carry out research to find a solution.

[Overview](#) | [Impact](#) | [Benefits](#) | [How to apply](#) | [Challenges](#) | [Experts](#)

"Posting our challenges through Innovate UK KTN Innovation Exchange has allowed us to have a cross-sectoral approach and added an element of reach that has proved invaluable. The responses have allowed us to explore applying solutions from other sectors like medical X-Ray technology to some really tricky problems."

— Andy Cooney, Technical Manager at Sellafield



Introducing Knowledge Transfer Partnerships (KTPs)

<https://www.ktp-uk.org/>



- A university, college, research and technology organisation – or Catapult in the UK
- Has knowledge to develop solutions
- Cross disciplinary expertise – a team could span different departments



- Recruited to lead project
- Transfers and embeds new knowledge
- Implements solutions

- Faces a challenge
- No off-the-shelf solution
- Requires external Knowledge Base expertise

KTP is Growing



INCREASE IN BUDGETS



AKT2 INNOVATE

KTP Project Profile

WHO

Any size, any sector including virtual UK based business & third sector

Public sector for Management KTP only

WHAT

Any subject that is innovative, business-led, strategically relevant

Demonstrates:

- commercial impact,
- innovation,
- knowledge transfer,
- embedded capability &
- coherent plan

WHY

Delivers quantifiable benefits for all three partners

Creates economic, societal & environmental impact

KTP Project Cost - Grant Contribution

67%

SME

50%

LARGE COMPANY

75%

THIRD SECTOR

Average Total KTP Project Cost per annum:
£80-100K

Associate Benefits

Unique career launchpad, driving a strategic innovation project

Opportunity to apply academic knowledge to a real-world challenge - making positive change happen

Employment within the chosen academic discipline

Ownership of the whole project – management skills

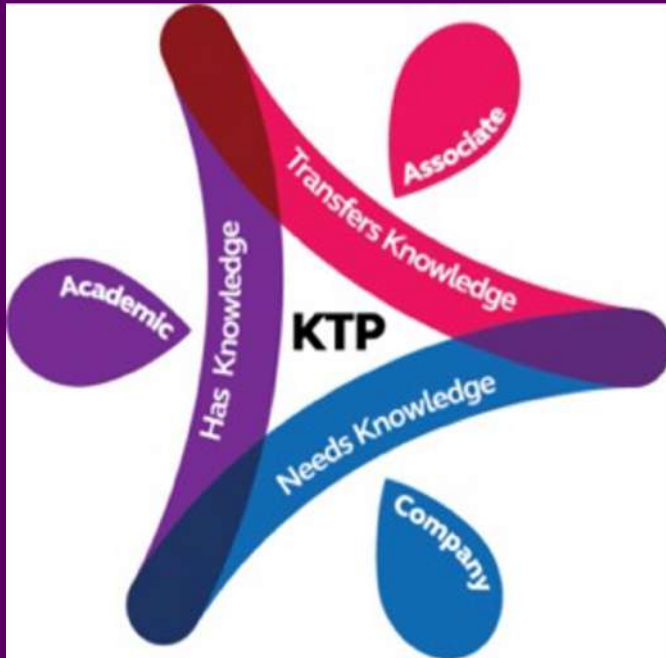
Fast-track career development

73% of Associates are offered employment by the host business

Customisable Training and development (10% of time and generous c £2k pa budget)

Mentoring support from KTA - accelerating skills development

Competitive salary



KTP Numbers (2021 - 2022)

Current Partnerships
753

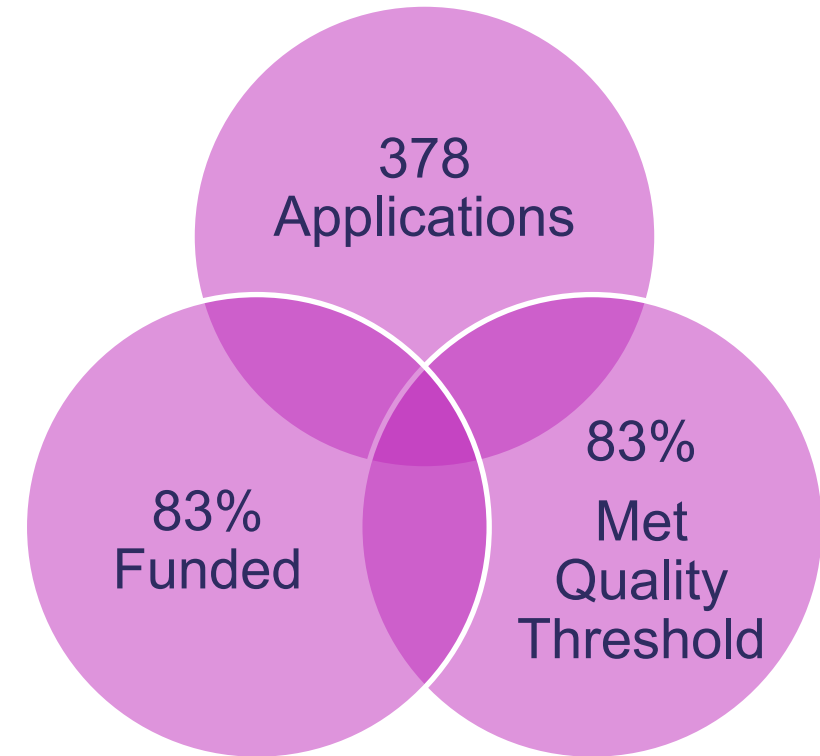
KB Partners
100

Business Partners
718

Associate Jobs
779

Current Associates
504

Associate Vacancies
275



Knowledge Transfer Adviser (KTA) Support



- A National Network of highly experienced Advisers with remit to support KTP delivery
- Locally based Expert Support and Advice throughout the project lifecycle
- Support and monitor the project
- Mentoring for KTP Associate
- Interface with other KTN resources/networks/sector specialists



**KTP
Rounds
2022/23**



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Innovate
UK

Wednesday, 22 March 2023

Wednesday, 17 May 2023

Wednesday, 5 July 2023

Wednesday, 6 September 2023

Wednesday, 1 November 2023

Wednesday, 13 December 2023

Wednesday, 7 February 2024



InnovateUK
KTN

Accelerated Knowledge Transfer to Innovate (AKT2I)



<https://www.ktp-uk.org/accelerated-knowledge-transfer/>



Innovate UK – Accelerated Knowledge Transfer (AKT)

Innovate UK – Accelerated Knowledge Transfer (AKT) is jointly delivered by Innovate UK and Innovate UK KTN.

- The Business Partner must contribute an additional 10% (minimum) of the total project costs in cash
- Project duration between 2 and 4 months



- At least **one academic supervisor** based at a Knowledge Base approved to participate in KTP.
- A **Business Partner** that requires support from the Knowledge Base partner to evaluate or develop an innovative idea or concept.
- The **employment of person** at the Knowledge Base (the AKT Associate) in order to deliver the project activity.
- **Current call opened 6th Nov, closing 13th Dec.**



Summary: Innovate UK KTN

- Broker of connections (bus2bus, uni2bus, uni2uni, etc.)
- Builder and supporter of communities
- Business-first with input and support from academia
- Conduit to Innovate UK funding
- Runs many Innovate UK-funded programmes (e.g. KTP, AKT, iX etc.)

Thank You

Thank You!

dawn.geatches@iuk.ktn-uk.org

<https://www.linkedin.com/in/dlg483/>



Innovate UK
KTN

Thank You

**Additional Information:
ICMS, INI Newton Gateway to Mathematics
KE Hub for Mathematical Sciences**



Innovate UK
KTN

International Centre for Mathematical Sciences

Lauren Hyndman

Knowledge Exchange Manager



About ICMS



Joint venture between **Heriot-Watt** and **Edinburgh**

Stimulates and **promotes** the mathematical sciences

Offers **funding** and **support** for running events

Based in the **Bayes Centre** in Edinburgh city centre

Bespoke facilities:

Two **seminar rooms** (capacity 74 and 40)

Hybrid and **recording** capabilities

Breakout space with panoramic views

Many **blackboards!**

Further space available at **14 India Street**

Additional space coming soon in **Edinburgh Futures Institute**



Bayes Centre



Large seminar room



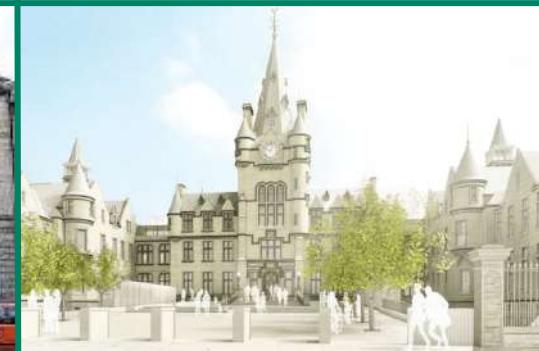
Breakout space



Panoramic views



14 India Street



Edinburgh Futures Institute

Study groups

Multi-day workshops:

Industry representatives present their **challenges**

Academics form groups to develop **ideas**

Each group presents their **progress**

ICMS co-hosted **ESGI 171** in July

Next UK ESGI: **Birmingham, July 2024**

Modelling camps

Designed for PGRs and ECRs

Good preparation for attending study groups

ICMS runs an **annual modelling camp** in the Spring

V-KEMS

Virtual activities to address real world challenges

ICMS supports the next virtual study group:

Maths for Justice (20-22 Nov)



KE Hub

Linking up KE activities across the UK

ICMS sponsors two Super Champions

ICMS co-leads organisation of **triage workshops**

1-hour informal discussion sessions

Low risk, low commitment for companies

Two aims: Can **maths** help? **Who** wants to help?

ICMS funding opportunities



KE Catalyst

KE event fund

KE follow-on fund

Mathematics for Humanity

Research-in-Groups

Strategic workshops

Research workshops

Training workshops

Public engagement



KE event fund



Open call



For activities that bring together **diverse groups** of people to **maximise the impact** of the mathematical sciences

Ideal for:

- Running study groups
- Developing and strengthening collaborations
- Advancing research and sharing best practice
- Forming communities and partnerships

Range of formats: in person, ICMS@ and virtual

ICMS provides funding for accommodation, catering and contributions to travel expenses

Typical budget is **£12k** for **2-3 days** with **30-40 participants**





KE follow-on fund



Open call

For activities carried out after KE events to **maximise impact**

Examples:

- Report writing
- Completing priority tasks agreed in the event
- Follow up meetings and site visits

The original event does not need to have been associated with ICMS

ICMS provides funding for travel and subsistence, accommodation or academic time

Anticipate requests up to **£3k**





Deadline – 11 Dec



For activities that have direct relevance to the ways in which mathematics can contribute to the **betterment of humanity**

Three themes:

Integrating the global research community
Mathematical **challenges** for humanity
Global **history** of mathematics

Activities could include:

Research-in-Groups
Research courses or seminars
Research workshops or schools
...and more!

Contact the **ICMS Director** to discuss further

First round funded topics include:

Rewilding

Climate

Mass extinction events

Flooding

Voting and representation

Justice

Mathematical resilience

History of mathematics in the ancient world



Research-in-Groups



Deadline – 1 Feb, 1 May, 1 Sep, 1 Nov each year



For organising a **short, intensive period of research** in Edinburgh

Typically **2-6 researchers** for **2-4 weeks**

We encourage:

- Adventurous proposals for **top quality** research
- Novel** groupings of **international** researchers
- Interdisciplinary** areas

At least 1 researcher must be from the UK with a maximum of 2 from any one university

ICMS provides office facilities, accommodation and contribution to travel and daily expenses





Strategic workshops



Deadline – 10 Jan, 1 Apr, 1 Aug, 1 Nov each year

Fast-tracked workshops for topics that need **quick attention**

Typically **practical** or **training-based** rather than theoretical

Budget is **£19k** for **2-5 days** with **20-50 participants**

Range of formats: in person, ICMS@ and virtual

Usually turned around with **6 months**

ICMS provides funding for accommodation, catering and contributions to travel expenses

ICMS staff provide support by making local arrangements and facilitating hosting of the workshop

Example topics include:

The role of the mathematical sciences in Research Council special themes

Scoping sessions for INI proposals and other grant opportunities

Responding to new needs (governmental, industrial or academic)

Exploring new possibilities for interdisciplinary and international collaboration

Strong potential for industrial impact and knowledge exchange



Research workshops



Deadline – 1 Apr, 1 Nov each year



For **focussed research** workshops

Typical budget is **£24k** for **5 days** with **30-80 participants**

Range of formats: in person, ICMS@ and virtual

Lead time of **1 year** for workshops hosted at ICMS

ICMS provides funding for accommodation, catering and contributions to travel expenses

ICMS staff provide support by making local arrangements and facilitating hosting of the workshop

Programme Committee considers proposals twice a year

Follow-on grants



Open call

To enable researchers to re-evaluate work arising from ICMS research workshops

Anticipate requests of **£200 - £1k**

Higher amounts can be considered but may be more appropriate for other schemes

Funding can be used for travel expenses, accommodation, conference fees, etc

Contact the **ICMS Centre Manager** to discuss your requirements



Training workshops



Deadline – 1 Apr, 1 Nov each year

Aimed at **students** of any level, as well as **ECRs**

Activities should:

Introduce participants to important **areas** or **themes**

Deliver high-level **scientific** content

Motivate undergraduates to **pursue research** degrees

Increase **diversity** of access to research

Examples:

Intensive courses

Mentoring sessions

Problem sessions

...and more!

Programme Committee considers proposals twice a year





Public engagement



Open call



For supporting **public engagement** activities related to the mathematical sciences

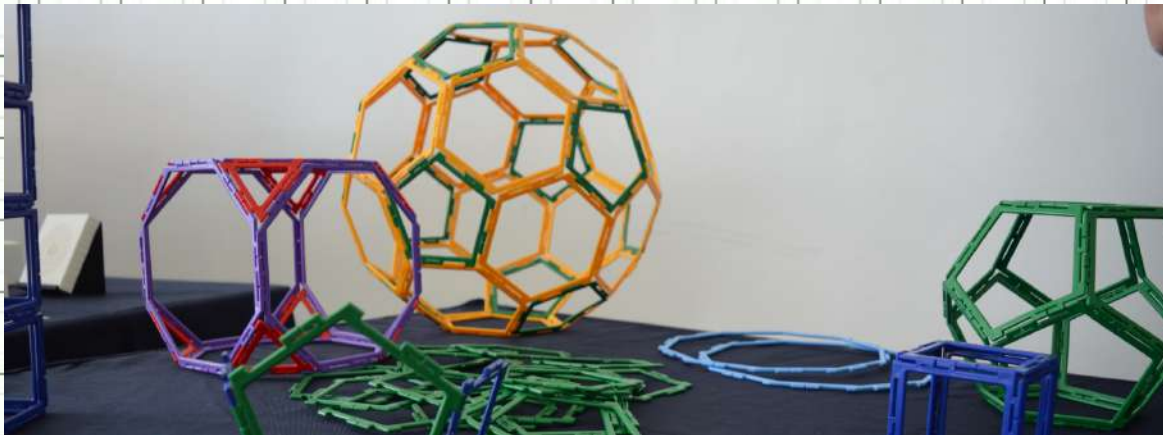
Previously accepted projects:

ECR training days

Art exhibition on Aperiodic Tiling

Funding for schools to visit Maths City Leeds

Hands-on workshop for school children



Public lectures

Christmas and Mary Somerville

Visiting Music Fellow

Julien Lonchamp composed a piece 'Resonances' which was developed through interactions with mathematicians at ICMS and inspired by the fact that mathematical models can simultaneously describe different scales of the same system



Visiting Visual Arts Fellow

Yambe Tam will create a piece of visual art to be displayed at ICMS, inspired by the content of our workshops



Please get in touch to discuss your ideas!

With all our funding schemes, ICMS is flexible in the support we can offer

We want to hear from you!

Our aim is to support the community so if there is something you would like that we do not currently offer, please let us know

We are always open to ideas and suggestions

Knowledge exchange activities

Lauren Hyndman, Knowledge Exchange Manager
lauren.Hyndman@icms.org.uk

Mathematics for Humanity

Minhyong Kim, Director
minhyong.kim@icms.org.uk

Other funding opportunities

Jane Walker, Centre Manager
jane.walker@icms.org.uk

Visit our website: www.icms.org.uk

SCAN ME



Summary: International Centre for Mathematical Sciences



- Supports maths communities
- Provides physical facilities and admin support
- Offers a range of funding opportunities
- Academia-first with business involvement
'optional'
- Enabler of research and community building

Knowledge Exchange for the Mathematical Sciences

The Newton Gateway to Mathematics

- The impact initiative of the [Isaac Newton Institute for the Mathematical Sciences](#) (INI)



The Isaac Newton Institute

A national and international
visitor research institute



- Part of the UK's mathematics research infrastructure (with ICMS, Heilbronn)
- Themed programmes of 1, 4 or 6 months duration
- Programmes span the mathematical sciences broadly interpreted
- Located in Cambridge and part of the Centre for Mathematical Sciences

The Newton Gateway to Mathematics

- The impact initiative of the [Isaac Newton Institute for the Mathematical Sciences](#) (INI)
- Engage with the users of mathematics
- Help to bridge the gap between those engaged in frontier mathematical research and those working in more applied areas
- Develop and deliver activities for mathematical sciences Knowledge Exchange
- KE support/impact for Isaac Newton Institute Research Programmes



What we do

Reflecting the Diverse and Underpinning Nature of Mathematics:

KE support and impact for Isaac Newton Institute Research Programmes

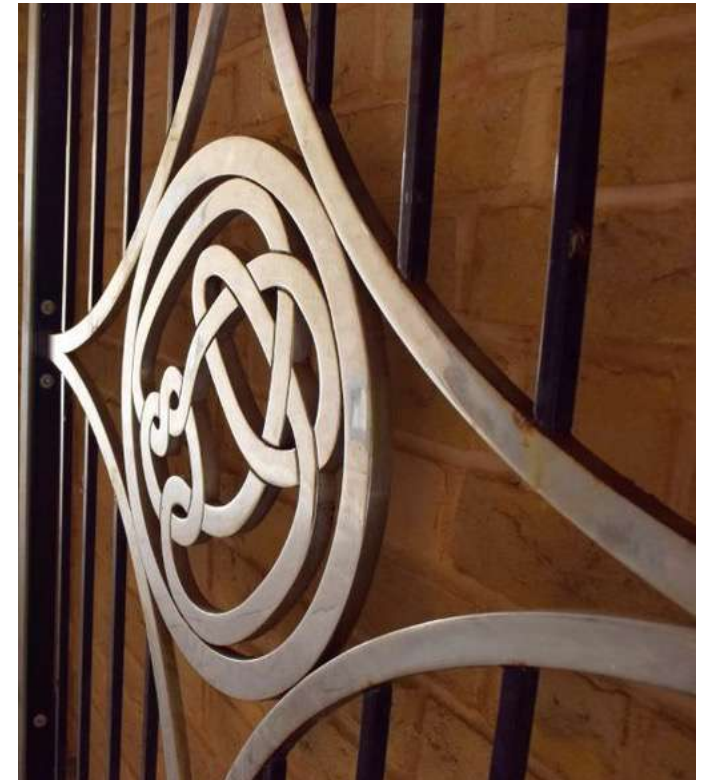
- “Open for Business” workshops to bring end-users together with INI programme researchers

Developing and delivering activities for mathematical sciences KE

- Partnering with industry, funders, Government, Institutions, Learned Societies, to help develop communities and build capacity for important science and technology areas

Types of Activities

- Programmes of work, research scoping/horizon scanning events, knowledge exchange/dissemination type workshops, training, consultations and study groups



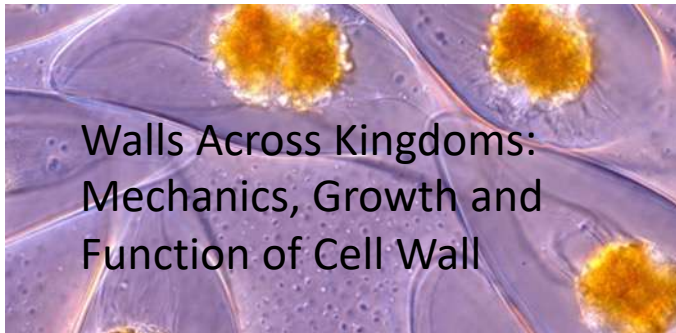
Open for Business Events

Developed and delivered by the Newton Gateway to Mathematics & co-branded with the Isaac Newton Institute

Specifically designed to bring together industrial, commercial and government organisations with mathematical scientists

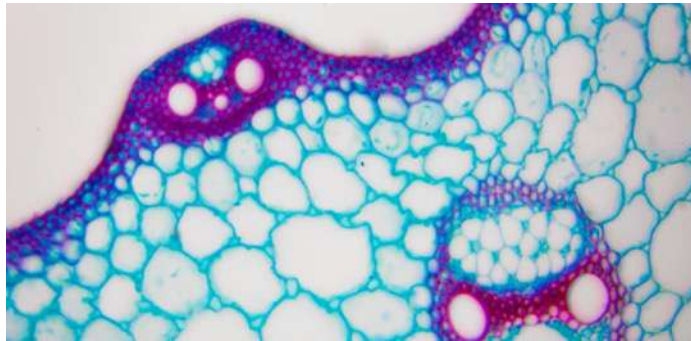
Can be run as part of an ongoing Research Programme, or as an independent event

Work with INI programme organisers to develop the events



Examples of Gateway Activities

Knowledge Exchange/Dissemination Events
Mathematical Challenges in Defence and
Security, March 2023
A workshop in collaboration with Dstl



The Public Perception of Science
– Virtual Study Group, May 2022
A [V-KEMS](#) study group

7th Edwards Symposium – New
Paradigms in Soft Matter and Statistical
Physics – September 2023, Annual
Symposium



Contact Us

- Clare Merritt, Manager – c.merritt@newton.ac.uk
- Claire Bonner, Senior Knowledge Exchange Coordinator – c.bonner@newton.ac.uk
- <https://gateway.newton.ac.uk/>

Summary

- Engages with the users of mathematics (across academia and industry)
- Helps to bridge the gap between those engaged in frontier mathematical research and those working in more applied areas
- Develops and delivers activities for mathematical sciences Knowledge Exchange
- KE support/impact for Isaac Newton Institute Research Programmes

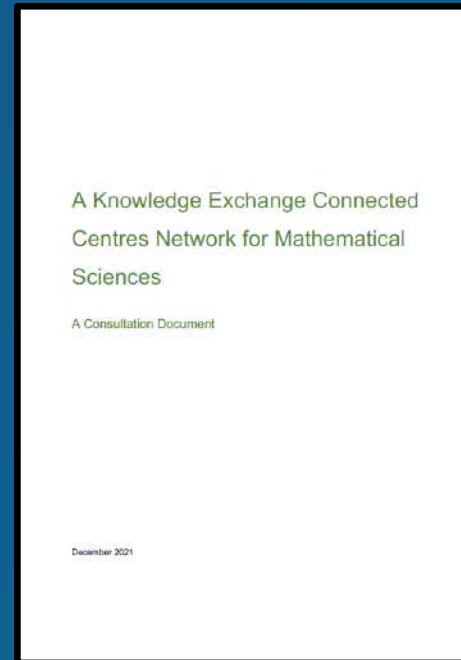
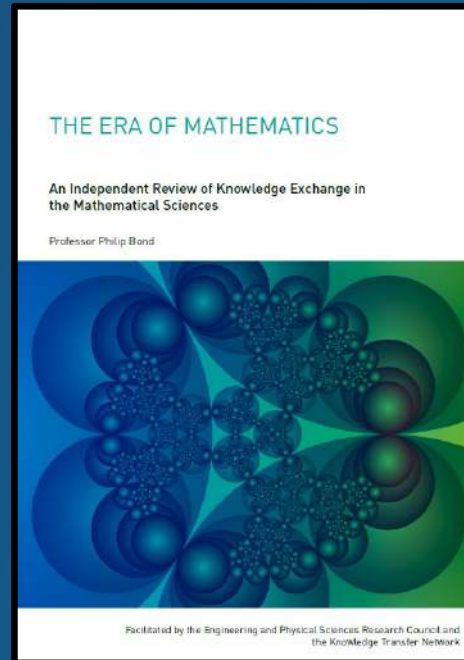


**Knowledge
Exchange Hub**
*for Mathematical
Sciences*

Rachael Harris
KE Hub Manager

Background

Bond "Era of Mathematics" review 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”*.

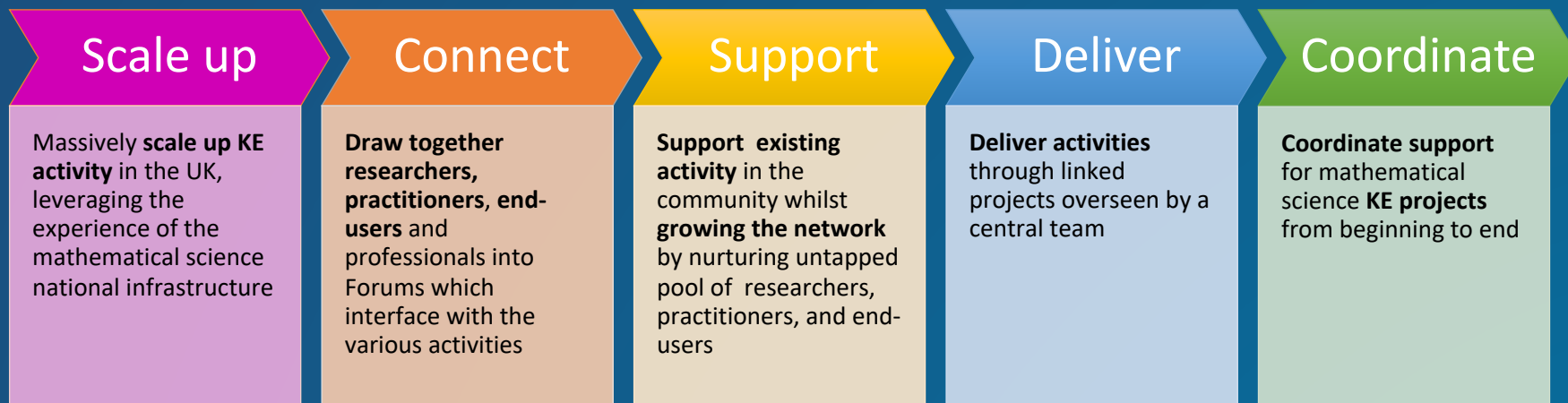


Proposition to launch a KE Connected Centres Network for Mathematical Sciences put to the academic community for consultation at the end of 2021.

Isaac Newton Institute (Cambridge) set aside EPSRC funds for initial period to launch UK KE Hub for Mathematical Sciences



Vision & Aims



Vision

To establish an appropriately resourced, outward-facing, inclusive organisation so that the best country-wide well-trained mathematical sciences talent can be brought to bear on challenges arising in business, industry, and government for the mutual benefit of all parties.

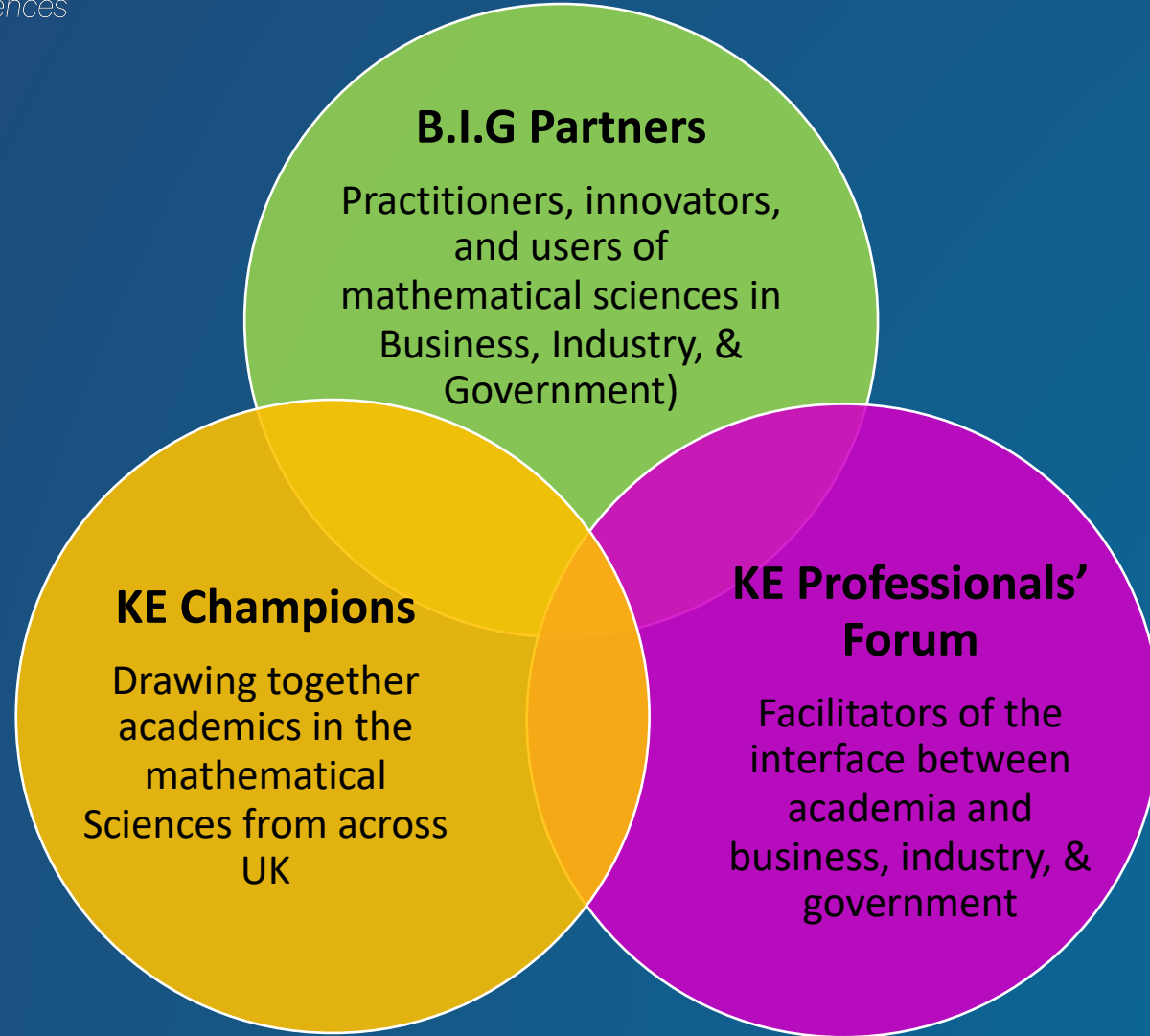
Mission

- Facilitate connections with university-based mathematical scientists that have relevant and appropriate expertise
- Enable Business (inc. charities), Industry and Government Departments to benefit from the power of cutting-edge mathematical ideas
- Make knowledge exchange with mathematical scientists easier



KE Hub collaborators

Launch event: 5th December 2023



KE Champions



We currently have 40 KE Champions, representing 35 Institutions

See their profiles on our interactive map here:
<https://www.kehubmaths.co.uk/ke-champions/>

- Lead department's engagement with KE Hub
- Share KE successes
- Highlight opportunities
- Nurture relationships
- Feedback to KE Hub about department requirements and KE ambitions



KE Professionals' Forum

The KE Hub already has 33 KE Professionals from across the UK that have joined our forum.

KE Professionals are an essential part of successful mathematical sciences Knowledge Exchange

- The KE Professional Forum will share good practice, experience, and appropriate opportunities for KE
- The forum will allow for groups with less KE experience to learn from those with deep expertise and experience in mathematical sciences KE

<https://www.kehubmaths.co.uk/knowledge-exchange-professionals/>



B.I.G Partnership

We are currently welcoming **Business, Industry & Government** (B.I.G) organizations to our B.I.G partnership.

47 companies joined so far

We will enable business (including charities), industry, and government departments to benefit from the power of cutting-edge mathematical ideas. We welcome engagement with all sizes of companies, all sectors, and all levels of mathematical expertise

Triaging
Workshops

Short-term
projects

Long-term
collaborations

Networking
events

Join our big partnership here:
<https://forms.office.com/e/rY1g6bKRYK>



People

KE Hub Management Team



Rachael Harris
*Knowledge
Exchange Manager*



Chris Breward
Scientific Director

KE Hub Super Champions



Alberto Paganini
(Leicester)



Alan Champneys
(Bristol)



Chris Budd
(Bath)



Diwei Zhou
(Loughborough)



Lars Schewe
(Edinburgh)



Shirley Coleman
(Newcastle)



William Lee
(Huddersfield)



Joanna Jordan
(Independent)

KE Hub Projects

- Engagement with companies (Alan Champneys & Alberto Paganini)
- Engagement with V-KEMS organizing committee (Chris Budd)
- Organisation of the KE Professionals' Forum (Jo Jordan)
- Organisation of KE Short projects (Shirley Coleman)
- Organisation of KE Training for doctoral students (William Lee)
- Organisation online triage workshops with companies (Diwei Zhou & ICMS)
- Coordination and dissemination of good KE practice (Lars Schewe)
- Engagement with UK Government departments (Newton Gateway)
- Engagement with ESGI organising committees

The Super Champions all:

- Mentor KE Champions
- Lead KE-Hub projects with the Management Team
- Devise and deliver KE training
- Engage in flagship KE activities supported by the KE Hub
- Meet regularly to share ideas and best practice



Short projects

- Launch in 2024
- 3-month projects involving 3rd or 4th year doctoral student
- Address a well-defined short-term issue from a B.I.G partner

- KE Hub will line up supervisor and student to do project
- SMEs can apply for subsidy which will reduce their contribution.
- Template contract (but university involved and B.I.G partner to do negotiation)

- B.I.G partner supports financially and with supervision
- Student spends some time at the B.I.G partner premise
- Standard prices (to be confirmed; higher price for IP ownership).



Triaging Workshops

- Launch in December 2023
- Friday mornings, fortnightly, 10-11am, followed by informal online chat (over coffee) until 11:30am
- Audience drawn from mathematical scientists in partner universities

- Companies present challenges where maths might help.
- Meeting is open so no confidential material presented
- On-the-day, answer questions
 - (a) is maths likely to help?
 - (b) who from the community is best placed to help out?
- Form a challenge team

Post workshop aim: team find appropriate mechanism to take forward collaboration to address challenge. Could be: faculty consultancy, long project (eg PDRA, doctoral student), short project (eg PDRA, doctoral student, MSc student).

Study Groups

ESGI

The next ESGI is 24-28 June 2024 at the University of Birmingham

The KE Hub will be offering:

- A 50% SME subsidy for challenge holders
- A presentation fund
- An impact fund for 3-month projects for a PDRA to develop some of the challenges further, to be match funded with the partner organisation

<https://ecmiindmath.org/european-study-groups-with-industry/>



Summary

- Nexus for B.I.G. organisations, academia, and KE professionals
- Brokers connections between them
- Provides funding opportunities
- Provides structured conduits for disseminating information to academic departments
- Provides support to academics and KE professionals



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

Get in touch:

KEHub@newton.ac.uk

<https://www.kehubmaths.co.uk>



InnovateUK
KTN



Take Home Message

All 4 organisations work together – like the
4 Musketeers:
“Contact one and one contacts all!”

