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Biological Sciences  
Research Council

# NSF Global Centers

## Addressing Global Challenges through the Bioeconomy

BBSRC - UKRI Webinar  
23 April 2024



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# Agenda

- Introductions to Panel – BBSRC-UKRI
- Introduction to the Call - BBSRC-UKRI
- Background to the Global Centres - NSF
- Scope of the Call - BBSRC-UKRI
- How to apply (UK applicants) - BBSRC-UKRI
  - Eligibility
  - Submission via TFS
  - Assessment
  - Timeline
  - Key contacts
- Questions - All

Please use the Q&A Function (not the chat) during the webinar to ask any questions you may have. Up-voting is encouraged. We will try to reply to your questions either in writing or orally during the question section at the end.

If your question is not answered, please email the Global Centres inbox afterwards to ensure your question is properly answered  
[Global.Centres.Bioeconomy@bbsrc.ukri.org](mailto:Global.Centres.Bioeconomy@bbsrc.ukri.org)

This webinar is being recorded and will be uploaded to the UKRI website in the “Additional Info” section along with the slides and FAQ sheet.

# Panel Members



- Jude Powell

International Team, BBSRC-UKRI

- Karen Lips

Office of International Science and Engineering, National Science Foundation, US

- Colin Miles

Advanced Manufacturing and Clean Growth Team, BBSRC-UKRI

- Ashleigh Bignell

Engineering Biology Team, BBSRC-UKRI

- Elly Tyacke

Research and Innovation Funding Delivery Team, BBSRC-UKRI

- Nikki Mackie

International Team, BBSRC-UKRI

- Millie Powell

International Team, BBSRC-UKRI

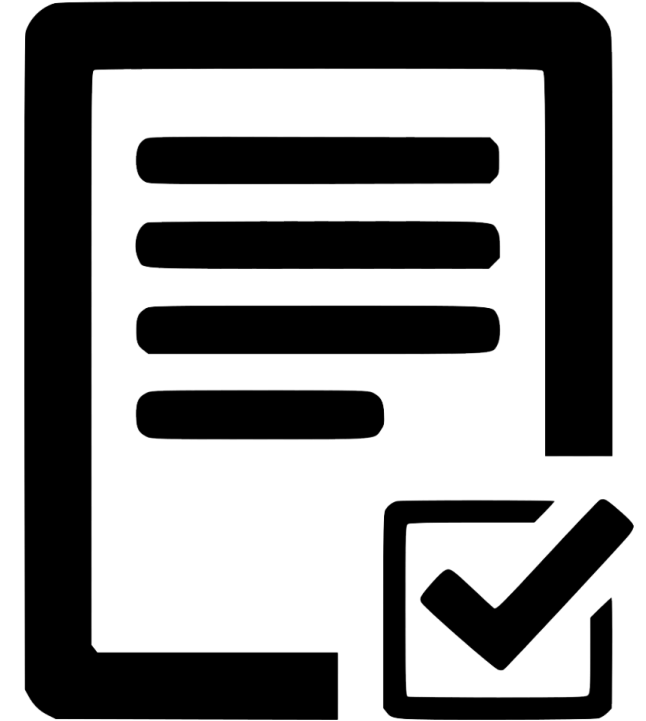
# Overview of the Call

- ❖ Second round of NSF led Global Centers – (Round 1 invested \$76.4 million in Clean Energy and Climate Change projects. Involved cross-UKRI participation, Round 2 is BBSRC only)
- ❖ A joint funding initiative to support large-scale, international, multi-disciplinary research projects to address global challenges through the bioeconomy.
- ❖ Countries involved – US, Canada, Japan, Korea, Finland, UK
- ❖ Up to £50 million pounds available in total



# Specifics of the Call

- ❖ Proposals must include and be led by a US applicant plus at least one collaborator from an applicable country partner
- ❖ UK applicants can apply for up to £2.13 million (100%FEC) = £1.7million (80%FEC)
- ❖ In total 5 to 7 awards of 4-5 years duration will be made
- ❖ NSF-US leading the Peer / Merit review process





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# NSF Global Centres

Karen Lips, Office of International Science  
and Engineering, NSF



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# NSF GLOBAL CENTERS

*Use-Inspired Research Addressing Global Challenges through the Bioeconomy*



**NSF 24-556**



NATIONAL  
ENDOWMENT  
FOR THE  
HUMANITIES



SSHRC  
CRSH



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# NSF Global Centers FY24 Funding Opportunity

## NSF-led in partnership with NEH & International Funders

USA



Canada



Finland



Japan



Korea



UK



- National Science Foundation (NSF) & National Endowment for the Humanities (NEH)
- Natural Sciences and Engineering Research Council of Canada (NSERC) & Social Sciences & Humanities Research Council of Canada (SSHRC)
- Innovation Funding Agency Business Finland (BF) & Research Council of Finland (RCF)
- Japan Science and Technology Agency (JST)
- Ministry of Science and ICT (MSIT) & National Research Foundation of Korea (NRF)
- United Kingdom Research and Innovation (UKRI)





# Key Elements of NSF Global Centers

**International  
Partnerships to  
address  
Global Challenges**

- Multidisciplinary
- Use-Inspired research
- Foreseeable benefit to society
- Stakeholders beyond academia
- Workforce development
- Focus on engaging diverse talents





# Proposal must focus on one or both of 2 scientific subtopics:

Informed by the White House Bioeconomy Executive Order and Bold Goals for U.S. Biotechnology and Biomanufacturing

## 1. Leveraging Biodiversity Across the Tree of Life to Power the Bioeconomy

- Put biodiversity to use in new applications for the bioeconomy
- Enhance discovery of novel function from diverse organisms
- Data science and the bioeconomy
- Socio-Economic Impact Assessment, Indigenous Knowledge, Historical and Cultural Ecology

## 2. Biofoundries using the Design-Build-Test-Learn process in biology

- Building novel forms and functions
- Measuring, sensing, actuating, and controlling biological systems
- Ethical Considerations, Governance, and Social Impact





## Some examples related to 2 subtopics:

Proposals are welcome across a wide range of research projects within the general theme of bioeconomy. Examples of research themes include, but are not limited to:

- Microbial biodiversity and interactions
- Plant genomic biodiversity
- Metabolomic biodiversity
- Developing a green economy
- Intersection of AI and biotech
- Quantum sensing in biotech
- Bio-inspired design of materials and structures
- Use-inspired study of life adapted to extreme environments
- Predictive modeling and decision making under uncertainties
- Novel metabolic pathways
- Engineering design of biological systems
- Circular bioeconomy for food, feed, energy, and products
- Biomass refining, and integrated biorefineries
- Natural, modified, and synthetic materials from plant resources





# Proposal must also include elements of BOTH crosscutting themes

- A. Public engagement and co-generation of research activities to strengthen the global science and technology enterprise
  - Develop social, behavioral, and economic drivers of a strong, sustainable and inclusive bioeconomy sector
  - Enhance the evidentiary basis of ensuring the safety of products and processes
- B. Workforce Development and Education
  - Engage stakeholders in ways that benefit individuals, communities, society, by fostering participation of the full spectrum of diverse talent in STEM
  - Enhance diversity and equity within biotechnology and biomanufacturing R&D
  - Develop educational and training materials and curricula





# Some examples related to 2 crosscutting themes:

Proposals are welcome across a wide range of research projects within the general theme of bioeconomy. Examples of crosscutting themes include, but are not limited to:

- Biocomputing
- Computational methods and data sciences for bioeconomy
- Cyberinfrastructure and data architectures for the bioeconomy
- Technology co-generation
- Enhancing precision agriculture
- Food and water security through the bioeconomy
- Nature based solutions through the bioeconomy
- Greenhouse gas mitigation through the bioeconomy
- Waste valorization for the bioeconomy
- Economic, Human, Social, and policy ramifications of bioeconomy
- Ethics and values of the bioeconomy, including biosecurity
- Economic analysis of bioeconomy systems





# Upcoming NSF Office Hours: all are welcome to drop in to ask any questions

23 April 2024	1:00 – 2:00 p.m. Eastern
1 May 2024	1:00 – 2:00 p.m. Eastern
10 May 2024	3:00 – 4:00 p.m. Eastern
22 May 2024	2:00 – 3:00 p.m. Eastern





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## Contact

OISE Global Centers Team  
GlobalCenters@nsf.gov



Scan to Global Centers website







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# BBSRC Scope and Remit of the Call

Colin Miles, Advanced Manufacturing and Clean Growth  
BBSRC-UKRI



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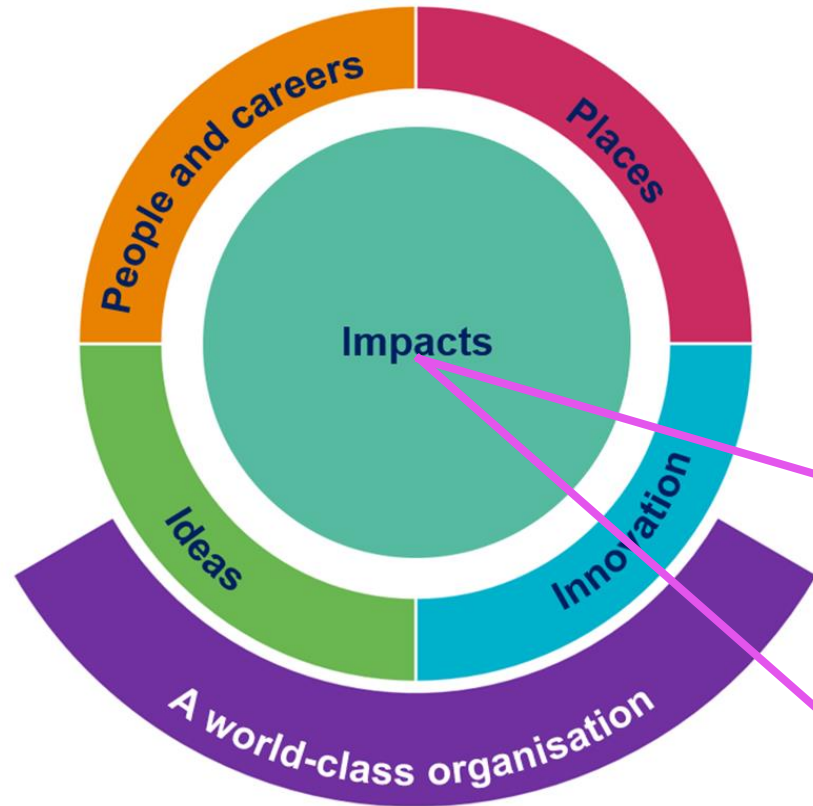
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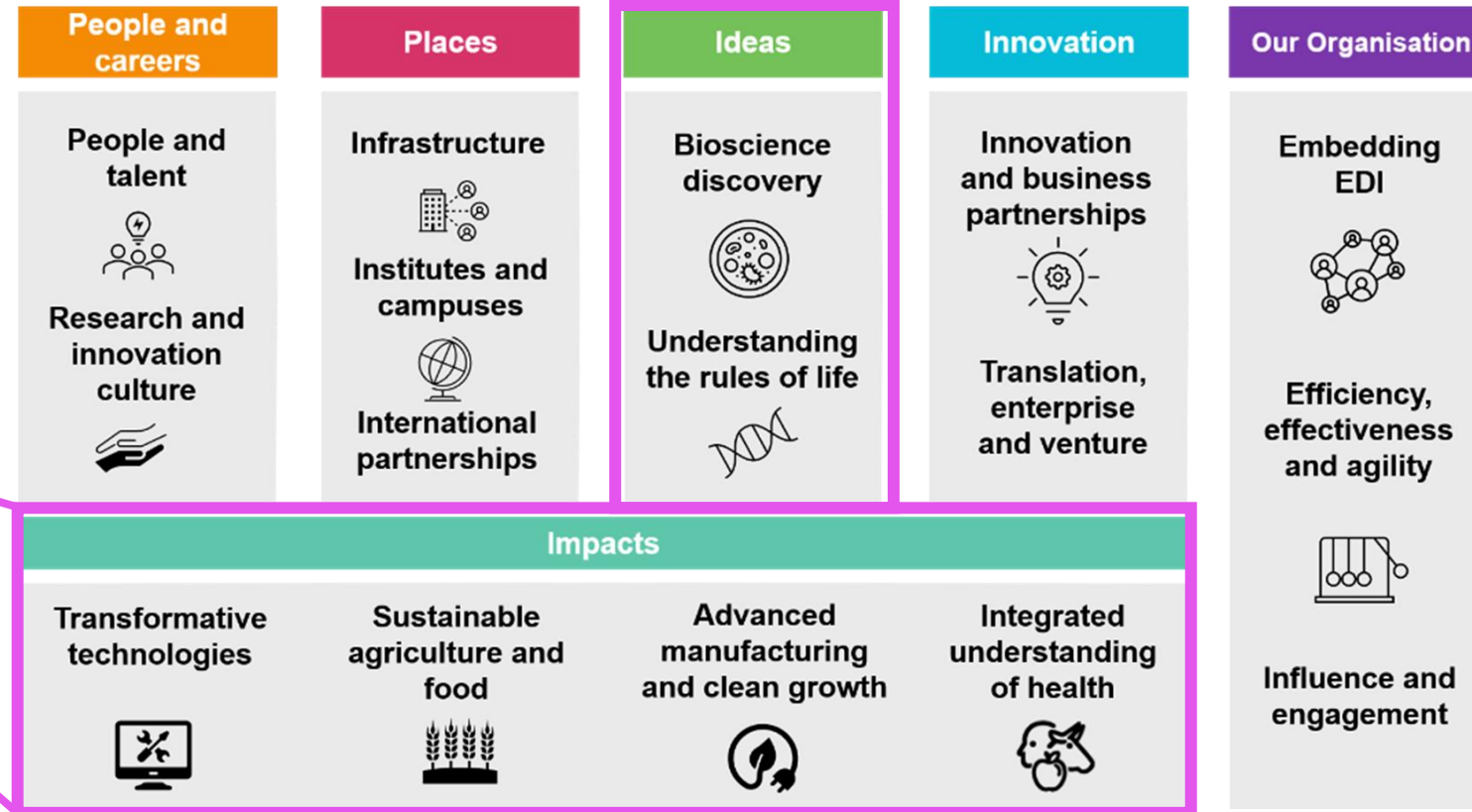
# How the call aligns to UKRI and BBSRC Strategy

**UKRI Strategy – transforming tomorrow together**

Outlines our strategic objectives - to foster world-class:



**BBSRC Strategic Delivery Plan (2022-2025)**





# BBSRC Strategic Themes

Transformative technologies



Developing the tools, technologies and approaches that enable researchers to push the boundaries of scientific discovery and stimulate innovation.

Sustainable agriculture and food



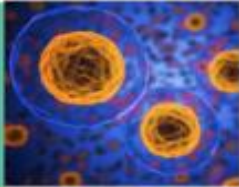
Transforming food systems to deliver positive nutritional, health and environmental outcomes.

Advanced manufacturing and clean growth



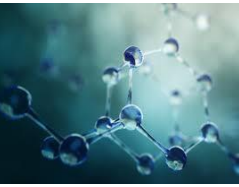
Reducing reliance on fossil chemical feedstocks and fossil-fuel derived processes.

An integrated understanding of health



Improving human and animal health and wellbeing across the lifecourse and tackling the threat of infectious disease.

Understanding the Rules of Life



Promoting creative, curiosity driven frontier bioscience to address fundamental questions in biology.

# Scope – Fit with BBSRC and UKRI



The funding opportunity is aligned with several of UKRI's strategic themes:

- **Build a Green Future** – accelerating the green economy to achieve net zero
- **Tackling Infections and Health** – preparing for future disease epidemics and tackling AMR
- **Ageing and Wellbeing** – improving health and tackling health inequalities

This funding opportunity is also aligned with UK Research and Innovation National Engineering Biology Programme, aiming to deliver a step change in discovery and application-inspired engineering biology transformational research and innovation to tackle global challenges.

The UK components of the Global Centers must be focused **primarily in the remits of BBSRC** as well as responding to the overall scope of the NSF solicitation.



# Scope-Biodiversity



We will support research and technology development activities in biodiversity that can be used for the purposes of innovation and translation within bioeconomy:

- **Advances in the discovery of novel functions across diverse organisms.**
- **Novel approaches that leverage the diversity of innovation within nature.**
- **Demonstrate the approaches developed could reduce greenhouse gas emissions contributing to realising future net zero or provide bio-based alternatives.**



# Scope-Biofoundries



- We will support research and technology development approaches towards innovation in biomanufacturing.
- Projects should enable and combine automation, high-throughput equipment including process scale-up, computer-aided design, workflows and tools in an iterative design-test-build-learn cycle for the development of engineered biological systems for the bioeconomy.
  - **Applications across a range of bioeconomy sectors**
  - **New or improved bio-based processes that can contribute to a circular economy.**
  - **Developing advanced technologies and platforms for precise engineering of diverse organisms.**

# Scope

Additional considerations and inclusions are encouraged within applications:

- **Project Partners** - Inclusion of other project partners (for example, within industry) is strongly recommended.
- **Multidisciplinary**- incorporating biosciences researchers across disciplines, ensuring **equal opportunity within the programme** to provide maximum benefit from a skilled workforce
- **Supporting skills and talent** - we encourage you to follow the principles of the [Concordat to Support the Career Development of Researchers](#) and the [Technician Commitment](#).
- **Trusted Research & Innovation (TR&)** - Ensure your proposal aligns with UKRI principles ([TR& Principles](#) ) which outline UKRI's expectations of organisations funded by UKRI in relation to due diligence for international collaboration.



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# How to Apply – UK Partners

Elly Tyacke

Research Innovation Funding Delivery  
BBSRC-UKRI



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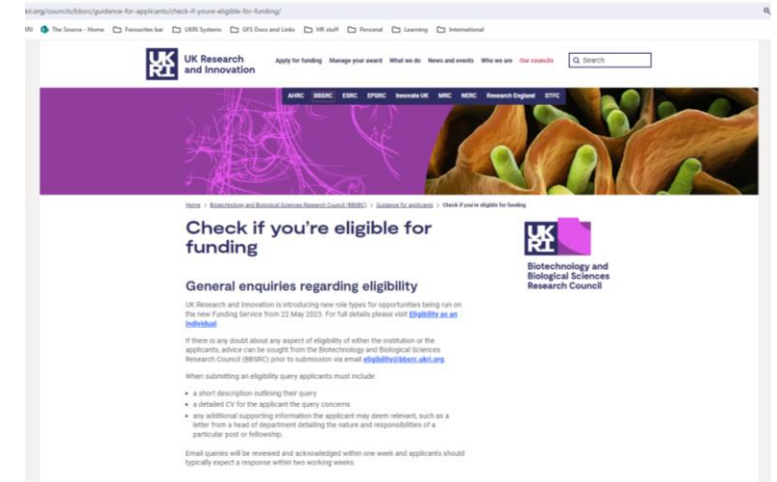
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# How to Apply – Eligibility

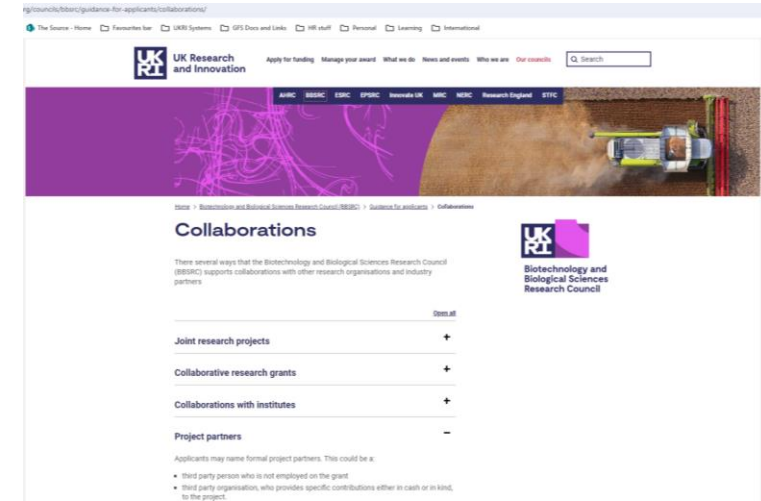
- Standard BBSRC eligibility rules apply Applicants and co-applicants – BBSRC – UKRI
- Note that the new Funding Service has new role types for applicants
- Before applying for funding, check the Eligibility of your organisation.
- Institutions and researchers normally eligible for our funding include, but are not limited to:
  - higher education institutions (HEIs)
  - research council institutes (RCIs)
  - approved independent research organisations (IROs)
  - public sector research establishments (PSREs)



Check if eligible for BBSRC-UKRI funding  
<https://www.ukri.org/councils/bbsrc/guidance-for-applicants/check-if-youre-eligible-for-funding/>

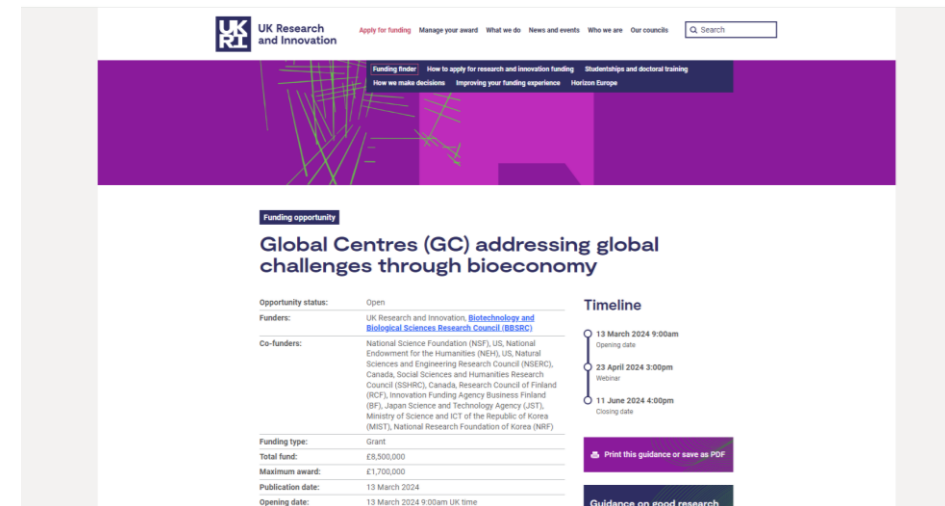
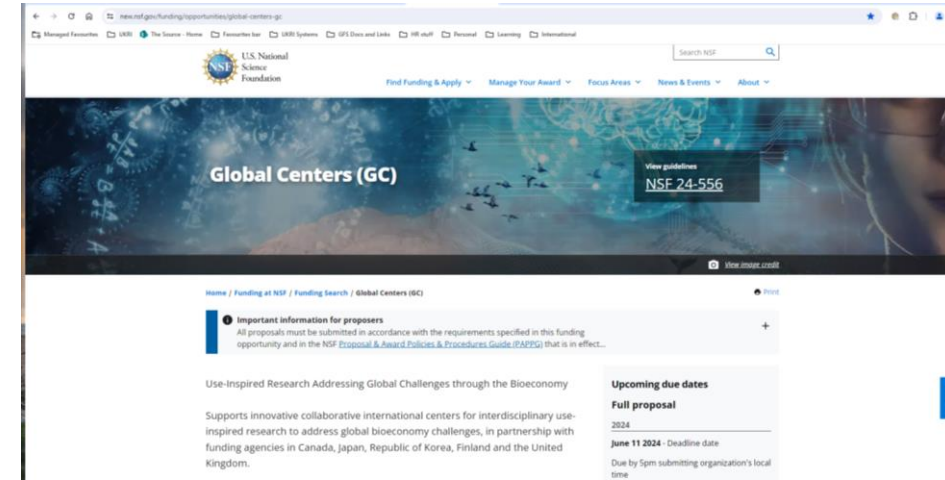
# How to Apply – Eligibility

- All UK Project and Co-Leads must be based at an eligible UK research organisation/institution
- Applicants not based within a competition participating partner country (US, Canada, Finland, Japan, Republic of Korea) are not eligible to apply for this funding opportunity.
- Project partners, collaborators and subcontractors are permitted but please refer to the UKRI website about collaborations: <https://www.ukri.org/councils/bbsrc/guidance-for-applicants/collaborations/>



# How to Apply – Submission via TFS

- US applicants submit full proposal to NSF by 5pm local time on 11 June: <https://new.nsf.gov/funding/opportunities/global-centers-gc>
- UK applicants submit a .pdf of the full proposal **plus** additional questions through TFS by 4pm 11 June :
  - **Ethics and responsible research and innovation**
  - **Research involving the use of animals**
  - **Research involving human tissues or biological samples**
  - **Trusted Research and Innovation**
  - **Resources and cost justification**
- Please bear in mind the US submission time
- Full details about TFS are available on the website: [Global Centres \(GC\) addressing global challenges through bioeconomy – UKRI](#)





# How to Apply – Assessment

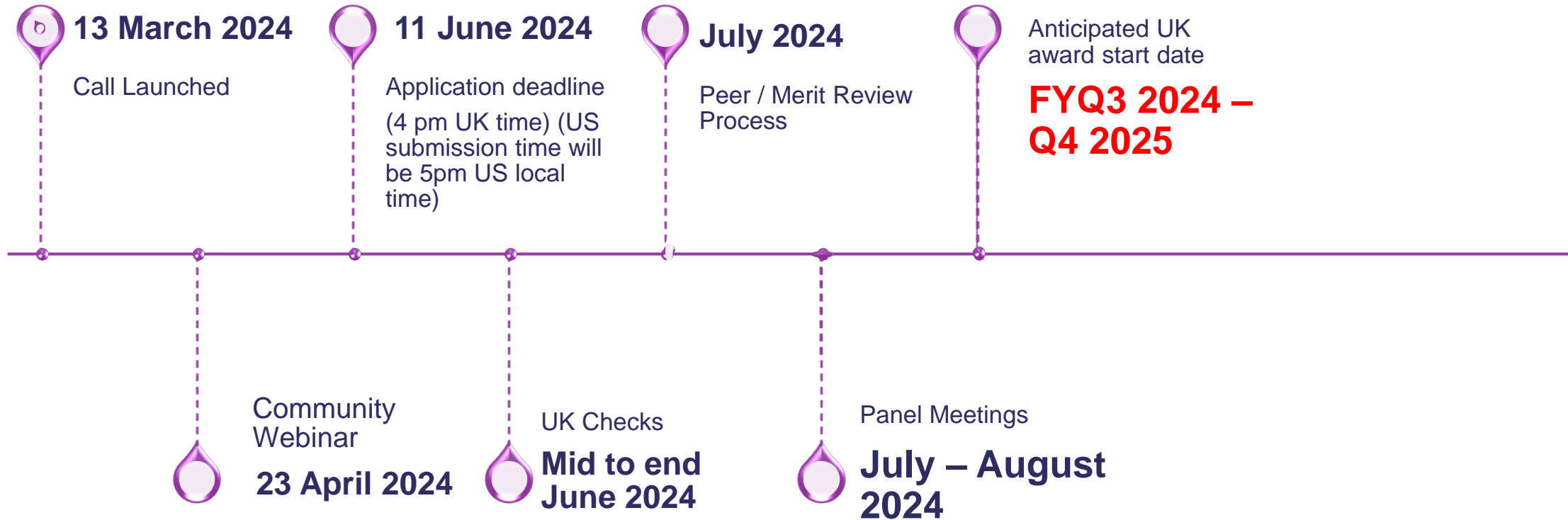
- Following the closing date, BBSRC will check the UK applications for eligibility and compliance
- NSF is leading the Peer / Merit review process and will take place in July
- BBSRC will suggest UK experts to NSF for the review process
- For more details on the Peer / Merit review process and criteria there is a recording on NSF website <https://new.nsf.gov/funding/opportunities/global-centers-gc/announcements/105064>
- Assessment Criteria include: intellectual merit and broader impacts
- **Interdisciplinarity, Use-inspired, International, Stakeholders, Diverse Talent, Vision for growth**
- BBSRC are signatories of the **San Francisco declaration on research assessment** (DORA) and recognise the relationship between research assessment and research integrity.

# How to Apply – Timeline

- **13 March:** Call Launched
- **23 April:** Community Webinar
- **11 June:** Full proposal submission deadline (**4pm UK time/ 5pm US time**):
- **Mid to end June :** UK checks
- **July:** Peer/Merit Review Process
- **July - August:** Panel Meetings
- **Q3-Q4 FY24/25:** Anticipated UK Award Start Date



# How to Apply – Call timeline



# How to Apply – Key contacts

- Full information on the submission process can be found on the [NSF solicitation web page](#).
- NSF contact email: [globalcenters@nsf.gov](mailto:globalcenters@nsf.gov)
- BBSRC contact email: [global.centres.bioeconomy@bbsrc.ukri.org](mailto:global.centres.bioeconomy@bbsrc.ukri.org) - for all questions regarding the call, including eligibility, remit, scope
- Any queries regarding the system or the submission of applications through the Funding Service (TFS) should be directed to the helpdesk.
  - Email: [support@funding-service.ukri.org](mailto:support@funding-service.ukri.org)
  - **Phone: 01793 547490**
    - Phone lines are open:
      - Monday to Thursday 8:30am to 5:00pm
      - Friday 8:30am to 4:30pm





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Email:  
[Global.Centres.Bioeconomy@bbsrc.ukri.org](mailto:Global.Centres.Bioeconomy@bbsrc.ukri.org)

Funding Opportunity Website:  
<https://www.ukri.org/opportunity/global-centres-gc-addressing-global-challenges-through-bioeconomy/>

# Thank you and Questions



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