

Sample form, not for offline completion.

Visit <https://aria.grantplatform.com> to apply.



Opportunity Seed: Mathematics for Safe AI

To help you decide if this is the right funding call for you, below is some guidance on the scope.

In scope:

- Ideas that sit within the **'Mathematics for Safe AI'** opportunity space. By this, we mean your proposal should show how your idea **either** aligns with or challenges the assumptions of the Summary, Beliefs, or Observations in the [opportunity space document](#).
- Ideas that could change the conversation about what is possible or valuable.
- Ideas that range from early stage curiosity-driven research through to pre-commercial science and technology.

Examples of projects we'd be excited to fund include (but are not limited to):

- Creating (largely) self-contained **prototypes/minimal-viable-products** of a Safeguarded AI workflow, similar to [this example](#) but pushing for incrementally more advanced environments (e.g. Atari games).
- Analysing, developing, prototyping and/or applying AI and formal methods, to:
- Scale up the production of **verified software systems**.
- **Verifiably secure hardware**, such as interval-bound solvers for Maxwell's equations in semiconductor devices.
- Developing **benchmarks and evaluations** of AI capabilities that accelerate or automate formal methods, e.g. in areas such as theorem proving, autoformalization, and verified software pipelines.
- Mathematical (formal) theories for understanding AI training or internal representations.
- Conceptual and mathematical work aiming to characterise **"boundaries"** of systems we want to protect from harm (e.g. Boundaries part 3a), or notions of **"harm"** (e.g. [Quantifying Harm](#), or [MWER](#) – which are not yet compatible).
- Creating **pedagogical materials** (e.g. educational videos, interactive tutorials, high-production-value expository blog posts, etc.) relevant to research produced in the context of Safeguarded AI's Technical Area 1 (or other parts of the programme), potentially in collaboration with programme Creators. The goal is to help upskill a broader population of engineers and scientists to be able to derive value from using the programme's modelling framework.
- **Field-building efforts** aimed at building a flourishing, creative, diverse and inclusive community around ideas related to Mathematics for Safe AI, be that in the form of events, upskilling opportunities, etc.
- Good-faith and **constructive criticisms** or [adversarial collaborations](#) regarding key assumptions underlying the thesis of Mathematics for Safe AI, and/or Safeguarded AI.

Out of scope:

- Ideas that live outside of the scope of the **'Mathematics for Safe AI'** opportunity space.
- Ideas that are within scope of the **'Safeguarded AI'** programme, as these should be submitted to their own, programme-specific funding calls.
- Ideas that are undifferentiated or that are likely to happen without ARIA support.

- Commercial products, or projects for which you wish to retain exclusive IP rights.

Please add your application or project title in this section.

Application name

Please complete this section to provide some basic information about yourself and your organisation.

All personal data provided to ARIA will be processed in accordance with UK data protection legislation, including the Data Protection Act (2018) and the General Data Protection Regulation (GDPR). Further information on how we use personal data and how you can exercise your right as a data subject can be found in the [ARIA Privacy Policy](#).

Please provide the lead applicant's name

100 characters

Please provide the lead applicant's email address

Please provide a link to your personal/organisation's website

If you would like to provide an alternative point of contact that we should use for any communications, please provide their name

(optional)

Please include the names of any co-investigators and/or co-lead researchers from either your own organisation and any collaborators or partners who will be undertaking part of the proposed project

For each co-investigator or co-lead researcher, please identify their name and organisation.

To note, where applicants wish to collaborate and submit a joint application with a third party, a lead organisation should be chosen to submit the application with all other collaborating organisations identified as subcontractors/sub grantees to the project. This detail should not be included in your response here, but included in the answers to the question related to subcontractors in Section 2.

Please enter N/A if you do not have any co-investigators, collaborators or partners.

Do you intend to carry out the project as part of an organisation or as an individual?

You are proposing to stay at your current organisation to carry out the project.

You are proposing to move organisation to carry out the project.

You are proposing to start a new organisation to carry out the project.

You are proposing to carry out the project as an individual outside of any organisation.

You haven't decided yet or it may depend on the outcome of your application.

Please select the option that best describes your situation and provide details where required.

For guidance on the different types of organisations, please see here <https://www.aria.org.uk/wp-content/uploads/2024/03/ARIA-Type-of-Organisation-Guidance.pdf>

Ideally you should have your organisation’s consent prior to submission of your application. We realise this isn’t always possible, so we don’t require it in order to submit an opportunity seed application. However, if after reviewing your application you are successful and you wish to conduct the research at your organisation, we will need their consent to formally agree the funding.

This is the main part of the application, which consists of five questions about you and your idea (please ensure you have read the call for proposals before submitting your application):

- What do you want to do?
- Why is it of scientific or technological importance?
- Why hasn't it been done yet?
- How do you plan to make it happen?
- Why are you the right person or team to work on it?

How to format your proposal

- Content layout: A short title, followed by each application question and your answer
- Page count: No longer than 3 pages (3 sides) of A4, including diagrams, excluding references
- Font: Garamond, Computer Modern, or Arial, black, min 11pt
- Margins: At least 0.5 inches on all sides
- File type: PDF

Please upload your application here.



Please ensure you have read the call for proposals before submitting your application. <http://aria.org.uk/opportunity-spaces/mathematics-for-safe-ai/mathematics-for-safe-ai>

Guidance on answering the questions:

- Where possible, be concrete and provide justifications for any claims you make.
- Write your application with simple and clear language that would be understandable to an expert from an adjacent field.
- Remember to review the evaluation criteria shared in the call for proposals.

In addition, we’ve provided a few prompts that might help spark your answers within the guidance section of the call for proposals here. <http://aria.org.uk/opportunity-spaces/mathematics-for-safe-ai/mathematics-for-safe-ai>

In completing your application you must also provide answers to the following questions. Please enter your responses directly into the spaces provided below.

Why is ARIA funding essential for the success of the project?

Our goal is to empower and champion R&D Creators in pushing the boundaries of what's possible. To better understand your project, we'd like to know why it is unlikely to happen without ARIA's support, and why our funding is essential compared to other potential sources, such as government research grants or venture capital. For example, the project might be underserved by existing funding avenues, or it could be too early-stage for venture capital backing.

Can you tell us more about you and your team?



We want to know who will be doing the work (not just the principal investigator or project lead) and what portion of their time will be dedicated to this project. We usually prefer project leads or other key researchers to be spending at least 50%, ideally 80%, of their time on the project. The project lead is not required to have any particular degree of seniority, though we do want to see that they have the requisite skills, expertise and motivation. When forming your teams we encourage you to consider the diversity of your team and who is best placed to lead the project.

We understand that early-stage ideas may not yet have a full team in place. So if you don't know the individuals, just list the required roles.

An example of how to answer this question is included in the call for proposals document. <http://aria.org.uk/opportunity-spaces/mathematics-for-safe-ai/mathematics-for-safe-ai>

What timeframe do you think you'll need for your proposed work in months?

There is no minimum length for a proposed project. The maximum length is 24 months.

We value speed, so if you think you could do the work faster with a greater budget, we'd prefer you to bias your proposal in that direction.

It's ok if you're not sure – you can input a rough estimate or range.

What key milestones will mark your proposed projects progress?

Our aim is to help your research get started quickly, so we're committed to a fast negotiation and award process. To support this, we'd like you to propose two to three milestones that will help track the progress of your project.

How much funding do you need, in total, to bring your idea to life?

Please provide an estimate in GBP (inclusive of VAT where applicable and all other costs) of what you consider a reasonable funding amount for your goals.

The minimum funding amount is £10,000. The maximum amount is £500,000.

Ask for the amount of funding needed to get your idea somewhere exciting. Don't be afraid to be ambitious.

It's ok if you're not sure – give your best estimate.

What is the high level breakdown of the funding you need?

1	Labour
2	Materials
3	Subcontract
4	Equipment and Facilities
5	Travel
6	Other
7	Subtotal
8	Indirect Costs
9	Total
10	VAT (where applicable)

We understand that you may not know the exact breakdown. We're asking for an estimate now, so you're confident that your project budget will be sufficient to deliver your goals and minimise your need to rescope.
To answer this question, provide a high-level breakdown of your proposed budget using the table provided.

For more guidance on eligible costs please see our FAQs here <https://www.aria.org.uk/how-we-fund/faqs/#costs>

If you would like, you can provide: alternative budget and timeline scenarios. (optional)2000 characters

This is not required. However, we recognise that you might want to provide two different scenarios such as a Proof of Concept vs a more expansive plan.
If so, let us know what the two scenarios would look like, and which one you think makes the most sense.

Does your proposal depend on background (pre-existing) Intellectual Property?

- ☐ Yes
- ☐ No

Have you already secured grant funding for a similar project or are you currently in the process of seeking support from other funding sources for the same idea?

- ☐ Yes
- ☐ No

Are there any other factors or restrictions that might impact your freedom to operate and deliver the idea?

These might include, for example: potential conflicts of interest; import/export restrictions; legal and regulatory restrictions that you are aware of.

Are you planning to give a portion of the work to external subcontractors?

- ☐ Yes
- ☐ No

Subcontractors are any proposed third parties that you plan to enter into a contract or agreement with for services necessary for the delivery or management of the project.

Where are you operating from?

☐ UK

☐ Non-UK

☐ Have you read and understood our funding terms?

Our goal is to ensure your research can get going quickly, so we want to ensure a fast negotiation and award process. We aim to have agreements signed within 6 weeks, which we recognise can be much faster than standard at some organisations. Before proceeding, please confirm that you have read and understand our funding terms <https://www.aria.org.uk/how-we-fund/#:~:text=Download%20our-,template,-funding%20agreements>

If you are unsure which terms apply to you, you can find more guidance here <https://www.aria.org.uk/faqs-funding/#:~:text=for%20my%20funding-,agreement,-with%20ARIA%3F>.

ARIA is collecting Equity, Diversity and Inclusion (ED&I) data that can be used to identify application and success rates. These questions are optional and will take less than 2 minutes to answer. You'll be asked questions on your gender and ethnicity. You can submit your application without completing these questions.

You should answer these questions based on the lead applicant only.

On each questions, you will always have the option to 'prefer not to say' if you do not feel comfortable sharing this information.

All personal data provided to ARIA will be processed in accordance with UK data protection legislation, including the Data Protection Act (2018) and the General Data Protection Regulation (GDPR). Further information on how we use personal data and how you can exercise your right as a data subject can be found in the [ARIA Privacy Policy](#).

Published data will be aggregated and anonymised.

If you are content to provide this information, please provide your consent to ARIA using your equity, diversity and inclusion data for the purposes outlined above

☐ Yes

☐ No

How would you define your gender?

	▼
Female	
Male	
Non-binary	
Prefer not to say	
Other	

How would you define your race?

Asian or Asian British

Black, African, Caribbean or Black British

White or Caucasian

Mixed/Multiple Ethnic Groups

Prefer not to say

Other Ethnic Group

We refer to race as being based mainly on your physical attributes or traits.

How would you define your ethnicity?

We refer to ethnicity as being your cultural characteristics, usually connected to a geographic region. Your ethnicity may include language, heritage, religion and customs. Examples may be Bangladeshi, Celtic, Chinese, Ghanaian, Greek, Indian, Pakistani, Polish.

You may feel as though your ethnicity includes multiple cultures, feel free to define more than one answer here.

What is the age of the lead applicant?

18-24

25-34

35-44

45-54

55-64

65+

Does the lead applicant consider themselves to have a disability as defined by the Equality Act 2010?

Yes

No

Prefer not to say

Does the lead applicant identify as neurodiverse? (autism, ADHD, dyslexia, dyspraxia etc.)

Yes

No

Prefer not to say

Please indicate the occupation of the main/highest income earner in the lead applicant's household when they were about 14.

▼

Modern Professional Occupations - include teacher, nurse, physiotherapist, social worker, musician, police officer (sergeant or above), software designer.

Clerical and Intermediate Occupations - include secretary, personal assistant, clerical worker, call centre agent, nursery nurse.

Senior Managers and Administrators - are usually responsible for planning, organising and co-ordinating work, and for finance, and include finance manager, chief executive.

Technical and Craft Occupations - include motor mechanic, plumber, printer, electrician, gardener, train driver.

Semi-Routine Manual and Service Occupations - include postal worker, machine operative, security guard, caretaker, farm worker, catering assistant, sales assistant.

Routine Manual and Service Occupations - include HGV driver, cleaner, porter, packer, labourer, waiter/waitress, bar staff.

Middle or Junior Managers - include office manager, retail manager, bank manager, restaurant manager, warehouse manager.

Traditional Professional Occupations - include accountant, solicitor, medical practitioner, scientist, civil / mechanical engineer.

Short Term Unemployed - they claimed unemployment benefit for under a year.

Long Term Unemployed - they claimed unemployment benefits for more than a year.

...

At ARIA we're always looking to learn and improve, so we're keen to find out how your applicant journey has been so far.

Please take a couple of minutes to answer the optional questions below.

How would you rate the solicitation process so far? (optional)

- ☐ Exceeds expectation
- ☐ Meets expectation
- ☐ Does not meet expectation

How did you hear about ARIA?

- ☐ Social media
- ☐ Web search
- ☐ Press coverage or blog
- ☐ Funding call database
- ☐ Professional network
- ☐ Event
- ☐ Find a tender/find a grant
- ☐ I was told about ARIA by someone else
- ☐ Other

ARIA will treat the information you provide in your submission documents as your confidential information and subject to the below ARIA will not disclose or use it other than as a part of an assessment of your submission.

ARIA will process any personal data contained within your submission for the purposes of assessing the submission in accordance with its privacy notice [here](#). As part of this assessment ARIA may also contact individuals named in the submission directly using the details provided to discuss aspects of your submission.

As part of the submission review process, ARIA will need to share your submission with certain employees, contractors and potentially third party expert reviewers. Anyone that ARIA shares your submission with will be subject to confidentiality and non-use restrictions for the confidential information shared and conflict of interest checks.

Although ARIA will keep your information confidential, we recommend that you do not submit potentially patentable information before a patent application is filed or commercially sensitive information. Where you have been shortlisted and you want to discuss potentially patentable or commercially sensitive information before a patent application is filed we may enter into a NDA.

ARIA may disclose your confidential information in order to meet its obligations to supply information for parliamentary, ministerial, judicial or administrative purposes as a public body including the supply of information to the Comptroller and Auditor General.

ARIA may publish statistics and metrics related to this call, this will not include any confidential or personal data.

ARIA reserves the right to waive or change the requirements of this call, disqualify any applicant that is guilty of serious misrepresentation, presents a significant national security, fraud and regulatory risk, or withdraw this call at any time. Unless expressly agreed otherwise ARIA is not liable for any applicant's costs, expenditure, work or effort incurred in carrying out enquiries in relation to, proceeding with, or participating in this call.

Applicants recognise and accept that it will be at ARIA's sole discretion as to which, if any, proposal is accepted.