Research Fellowships and Engineering for Development Research Fellowships 2019/20

Applicant guidance notes

Deadline: 23 September2019

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Introduction to Research Fellowships

The Royal Academy of Engineering (the Academy) offers Research Fellowships each year to outstanding early-career researchers to support them to become future research leaders in engineering. The scheme's objectives are to:

- support the best early-career researchers in establishing their independence and international reputation
- provide long-term support enabling the pursuit of an ambitious programme of engineering research and impact
- develop ambassadors for the Academy and advocates for STEM (science, technology, engineering and mathematics) disciplines.

The Academy welcomes applications from early-career researchers worldwide who have been awarded their PhD in the last four years. The scheme provides funding for five years. Each application is capped at a maximum contribution from the Academy of £500,000 over the five-year period, at 80% of full economic costs. In addition, Research Fellowships must be held at a UK higher education institution/university.

In addition to the direct financial support, the scheme benefits include:

- opportunity to establish a research track record in a specialised area
- a stronger position to apply for additional funding and develop own research team
- mentoring support from an Academy Fellow to offer advice on research and career development
- reduction of teaching and administrative duties to dedicate time to research
- training opportunities
- networking with other Research Fellows and Academy Fellows.

Engineering for Development Research Fellowships

Engineering for Development Research Fellowships (EDRF) support research that meets the UK government's Official Development Assistance (ODA) commitment. The scheme offers the same benefits as the Research Fellowships and the application and review process is the same.

If you would like your application to be considered for an EDRF, you must complete relevant sections in the application form to explain how the research project meets the ODA guidelines:

1. The research activity aims to positively impact or contribute to the sustainable economic or social development and/or welfare of a country or countries on the Development Assistance Committee (DAC) list.
2. The research is challenge-led and designed to tackle a specific development need of a country or countries on the DAC list.
3. The potential research outputs will be applied in an identified DAC list country or countries and will contribute to the sustainable development of that country or countries.

Unlike in previous rounds, applications for EDRFs 2019/20 should not, at the application stage, provide a cost table of additional funding above the £500,000 standard limit to support international collaboration. For successful 2019/20 EDRF applications, the Academy will request a short proposal for additional funding, subject to confirmation of future funding allocations within the Global Challenges Research Fund (GCRF). However, since the possibility of additional funding is not expected to be confirmed until mid-2020, the applicant should be clear what work programme will be deliverable within the £500,000 limit and any other resources that the applicant is confident of obtaining.

PLEASE NOTE: All information in this document applies to both Research Fellowships and EDRFs, unless otherwise stated.

Diversity and inclusion

The Royal Academy of Engineering is committed to diversity and inclusion and welcomes applications from all underrepresented groups across engineering. It is the Academy's policy to ensure that no applicant is disadvantaged or receives less favourable treatment because of age, disability, gender reassignment, marriage and civil partnership, pregnancy and maternity, race, religion or belief, sex or sexual orientation.

Part-time and flexible working

The Academy wants to support applicants to achieve a balance between their personal and work demands, and is happy to discuss individual requirements and consider part time and other flexible working arrangements.

Research Fellowships can be held part-time, but **must be the only form of employment**. The request for a part-time Research Fellowship (at no less than 50% of full-time equivalent) must be made clear within the application. Alternatively, the Research Fellowship can be converted from full time to part time, or from part time to full time, during the fellowship, assuming the host institution's HR department supports the request.

Research Fellows are entitled to maternity, paternity and adoption leave under the host institution's normal conditions of employment. The Academy will extend the duration of the Research Fellowship pro-rata to take into account such periods of leave and any conversions to part-time working. Research Fellows with caring responsibilities should liaise directly with the host institution if they wish to apply for part-time or flexible working.

Submission deadline

There is one application round each year. The online application system for 2019/20 round will be open in early July 2019. The submission deadline for 2019/20 round will be **4pm on Monday 23 September 2019**.

Eligibility criteria

1. Research Fellowships must be held at a UK higher education institution/university in a department that can show it is capable of fully supporting an engineering-focused research project and researcher. In addition, the host institution must agree to provide the Research Fellow all the support normal for a permanent employee.

2. It is the responsibility of the applicant to contact the host institution and gain the formal approval from the relevant head of department or school before submitting an application.

3. The proposed research project must be in an engineering subject area. Engineering is defined in its broadest sense, encompassing a wide range of diverse fields (see Subject Category section in the application form).

4. Research Fellowships are aimed at early-career researchers. Applicants must have a PhD, which was awarded (or the PhD has been unconditionally approved) no more than four years before the submission deadline: **Monday 23 September 2019**. This time period includes applicants' work experience in academia or/and in industry. A margin of up to three months more than the four-year limit is acceptable. If applicants have had maternity/paternity leave or other extenuating circumstances, this will be taken into consideration if the relevant dates and details are provided in the application form.

5. The applicant must not hold a permanent academic position.

6. Research Fellows will be employed by the host institution and are required to devote all their working time to the Research Fellowship. The Research Fellowship must be the Research Fellows only source of employment

7. There are no nationality and age restrictions for applicants. The host institution is responsible for securing all necessary work permits and related costs for the Research Fellows.

8. Applicants who have applied to this scheme before and were unsuccessful are eligible to reapply.

9. Research Fellowships must begin between **1 August 2020** and **31 October 2020**. The Academy may extend this period based on funding opportunities. The duration of a Research Fellowship is five years full-time, calculated on a pro-rata basis for part-time awards. Requests for a shorter Research Fellowship are not accepted.

10. There is a limit on the number of applications each host institution can submit. Applications that do not come within this limit will be disregarded (see Application limit). Institutions/universities are likely to have an internal selection process that applicants must find out in advance.

11. Applications for EDRFs must meet the ODA guidelines. The country/countries that will directly benefit from the proposed research must be on the DAC list.

12. Any applications that are incomplete or do not adhere to the guidance will be rejected.

Application limit

The application limit applies to the 'host institution', which is where the Research Fellowship will be held. This may or may not be the applicant's current employer, but must be a UK higher education institution/university. If a host institution submits more than the permitted number of applications, it will be asked to withdraw any applications exceeding this limit. All interested applicants should consult relevant offices at the host institution as soon as possible to discuss submitting an application, because there may be an internal selection procedure in place.

Host institutions are expected to:
- adopt appropriate mechanisms to ensure only the highest calibre of candidates are submitted to the scheme
- adopt a proactive approach in encouraging researchers from unrepresented groups to apply
- evidence their commitment to equality and diversity if requested by the Academy. They must be able to demonstrate that their selection criteria do not unlawfully discriminate or disadvantage candidates because of their personal characteristics or background.

Each host institution can **submit a maximum of four applications** (either Research Fellowships or EDRFs). One additional application will be considered if it is submitted by a candidate belonging to a group that is persistently underrepresented within UK engineering. This positive action will contribute to improving diversity in the talent pipeline and widening the pool of candidates.

Groups that are persistently underrepresented within the profession are:
- women
- Black and minority ethnic people

There is also anecdotal evidence that people with disabilities are underrepresented

The Academy uses the UK government's Office for National Statistics classification for minority ethnic:
- Mixed/multiple ethnic groups (white and Black Caribbean, white and Asian, white and Black African, other mixed)
- Asian/Asian British
- Black/African/Caribbean/Black British
- Other ethnic group (Arab, Any other ethnic group).

Mentoring and monitoring

The scheme's programme manager will work with each awarded Research Fellow to identify an Academy Fellow to be their mentor. The mentor will support and provide expert advice throughout the fellowship about research and career development.

Research Fellows are required to submit a progress and financial summary report to the Academy each year. The Research Fellow, Academy representative and mentor will meet annually to discuss the report, identify progress being made and make plans.

Research Fellows are responsible for arranging the annual progress report meetings with their mentors. The head of department or school should be invited to two out of the five meetings to ensure sufficient support is provided to the Research Fellow. A template will be provided for the report. Research Fellows will also be asked to provide some key data of their annual performances (e.g. publications and additional research funding) for the purpose of auditing and reporting to the Academy's funders.

How to apply

All applications must be submitted via the Royal Academy of Engineering's online Grant Management System (GMS), available at https://grants.raeng.org.uk

All applicants must first register and provide some basic log-in details to create a profile. Before completing the application form, applicants are asked to complete **a Diversity Monitoring Form** to help the Academy monitor and assess its equality, diversity and inclusion policy. The information will be treated as strictly confidential, non-attributable and only reported when collated. It is gathered, stored and used in compliance with the Academy's Privacy Notice in line with the General Data Protection Regulations 2018. The information will only be used for statistical purposes with access restricted to staff involved in processing and monitoring the data. It will not be seen by anyone involved in any selection processes. No information will be published or used in any way that identifies individuals. The Academy will retain personal information for six years.

The application form has six sections and should take approximately two hours to complete, assuming you have answered the questions offline and merely need to enter the information, rather than compose it. To compose the application in its entirety will take significantly longer.

A summary of the guidance notes is imbedded within GMS. However, the guidance given below is more detailed and recommended.

Many of the questions have prescribed word limits, which are designed to keep answers focused and give applicants an indication of the level of detail required. In such cases the number of words used will be displayed beneath the question and updated in real time.

Applicants can download a pdf of their applications after submission, which is recommend for reference. There is only one application stage and those meeting the eligibility criteria will enter the assessment stages.

Completing the application form

After logging into the GMS and selecting 'Research Fellowships', you should be presented with the 'Instructions' window. Here you will see some general instructions on how to use GMS, as well as the six sections of the application form listed below:

1. Applicant and institution details
2. Applicant profile
3. Project details
4. Case for support
5. Resources requested
6. Statement of support and declaration

At any stage in the application process you can save your work and return to it later. You can answer the questions in any order you like, so you can freely skip some sections and return to them later. Please read the guidance provided in this document in detail, so you know exactly what is required in each section. You should also ensure that you have all the necessary documentation to complete the application, such as a copy of your CV and supporting letters.

1. Application and institution details
Q – Applicant name and contact details
Please provide your name and preferred contact details. You should also provide the details of the host institution where the Research Fellowship will be held and confirm that this is the 'lead organisation'.

Q – Application limit
Each host institution can submit up to five applications, if one of the five applications is submitted by the candidate belonging to the underrepresented groups (see Guidance Notes for details). Please consult your host institution to indicate your application is submitted as Standard Submission (one of the four applications) or Additional Submission (underrepresented groups).

The indication of either Standard Submission or Additional Submission is used to monitor each host institution's application limit only. The indication is not visible to reviewers. All applications are in the same review process with no regard to the underrepresented groups.

Q – Application scheme
Please indicate your application is for 'Research Fellowship' or for 'Engineering for Development Research Fellowship'.

Q – Marketing: where did you hear about the scheme?
This question is optional, but helps the Academy to understand which marketing materials are most successful at reaching the academic community to improve future communications work.

2. Applicant profile

This section requests details about your suitability and eligibility for the Research Fellowship. You will need to answer some general questions on your experience and upload your CV.

Q – What date was your PhD Certificate awarded?

Applicants must have a PhD, which was awarded **no more than four years** prior to the submission deadline (23 September 2019). Please enter the date your PhD Certificate was awarded or the date your PhD was unconditionally approved by the university.

Q – Extenuating circumstance (optional question)

Should your PhD Certificate have been awarded more than four years prior to the submission deadline (23 September 2019), please provide details of the circumstances. Please cover any periods of maternity/paternity leave, extended sick leave, national service or other activity that you feel should be considered when assessing your eligibility for this Research Fellowship. The Academy's decision on eligibility is final.

Q – Do you currently hold a permanent academic position?

Applicants must not hold a permanent academic position.

Q – Are you available on the interview dates?

Shortlisted applicants will be invited to attend an interview on either 29, 30 April or 1 May 2020 at the Academy in London. All shortlisted applicants must be available to attend, as alternative dates cannot be arranged.

Q – Please upload your CV

The format and content of your CV is left to your discretion, but should include a list of publications. You may wish to indicate which publications you deem most significant and include a link to any that are open access. You do not need to include contact details as these are included earlier in the application form. **Please also avoid personal information (e.g. gender, date of birth and nationality) in the CV**.
Your CV must not exceed three pages and should be submitted as a PDF.

Q – Profile of applicant

Outline how your skills, experience and track record would enable you to successfully complete the five-year Research Fellowship and become a future research leader in your chosen field. You may also wish to include:

- any relevant collaborative work and visits with other researchers, research organisations, industries or other beneficiaries, both nationally and internationally
- impact of your research on improving the quality of life
- any successful grant applications and their values
- any other information that demonstrates your independence and your track record as a researcher
- career goals resulting from the fellowship.

You have 600 words for this question.

3. Project details
Q – Project title
The essence of the research should be captured in the title and should be as informative as possible. Please use no more than 10 words and ensure that it is understandable to a non-specialist reader.

Q – Abstract
Describe the research in terms that can be understood by a non-specialist reader. What similar research is being/has been undertaken nationally and internationally, and how does your project differ?
You have 300 words for this section.

Q – What is the start date of the proposed project
Research Fellowships must begin between **1 August 2020** and **31 October 2020**. The duration of a Research Fellowship is five years full-time, calculated on a pro-rata basis for part-time awards. You must agree these timescales with the host institution. Requests for a shorter Research Fellowship are not accepted.

Q - Subject category
Select one single broad engineering category that best describes your research proposal. This will be used to guide and select reviewers and the panel members for the assessment process. If your research proposal fits into several categories, please pick the category that is most applicable to your proposal.

1) Civil, construction and environmental
Including aspects of civil and structural engineering; construction materials; earthquakes; wind and fire engineering; building engineering physics; construction management; numerical modelling; environmental engineering; water resources and flooding; offshore and coastal engineering; hydraulics; climate change and sustainability; waste management; geotechnical engineering; geomatics/surveying.

2) Materials and mining
Including metallurgy; metal forming; corrosion; failure analysis; structural integrity; non-destructive testing; inspection technologies; failure prevention; fabrication and

repair technologies; welding and joining technologies; discovery and development of mineral resources; extraction and processing of minerals; mining engineering; materials performance; materials research; plastics and composites; structural materials (excluding materials specifically covered elsewhere).

3) Chemical and process
Including all aspects of chemical and process engineering; aspects of fuel technology; oil; coal and gas technologies; carbon; carbon sequestration; clean technology; combustion; catalysis; particulates; food processing; fermentation processes; pharmaceutical engineering; biotechnological processes.

4) Aerospace
Including all aspects of aeronautical engineering and aerospace manufacturing; turbomachinery and aerothermal engineering; avionics; radar systems; antennae; satellite systems; autonomous systems; aspects of systems engineering; airlines; materials for aerospace.

5) Transport and mechanical
Including all aspects of mechanical engineering; automotive; rail and marine engineering; transportation infrastructure; engines; turbomachinery; mechatronics; acoustics and vibrations; ultra-sonics; heat and thermodynamics; fluid dynamics.

6) Manufacturing and design
Including manufacturing management and manufacturing process innovation; manufacturing business improvement and re-engineering; CAD/CAM; robotics for manufacturing; engineering design.

7) Electrical and electronic
Including electrical, electronic and control engineering; design for electronics; aspects of nanotechnology and semiconductor engineering; lasers; optoelectronics; photonics; microwave engineering; instrumentation; display technology; solid state electronics.

8) Energy and power
Including energy technologies; electric power and energy systems engineering; nuclear and renewable energy generation; energy infrastructure; management of energy and energy resources for generation, storage and transmission; distribution and conversion of electric energy and power; electricity supply and energy conservation; hydrogen power; fuel cells.

9) Medical and bioengineering
Including all aspects of medical and biomedical engineering; orthotics; prosthetics; ultrasound for medicine; medical scanning and imaging; drug delivery; biomedical

materials; tissue engineering; medical devices; medical robotics and computer assisted surgery.

10) Computing and communications

Including computational and software engineering; informatics; web and data science; telecommunications; mobile telephony; broadband; wireless spectrum; signal processing; television, film and broadcasting; computer and video games; special effects.

Q - Please provide keywords relating to the project

The keywords help when identifying reviewers for the assessment process. You may wish to include relevant words from the subject categories provided.

Q - List all external organisations that you will collaborate with as part of the project.

Please list any collaborators from universities (UK, international) and industry. This will help avoid any conflicts of interest during the assessment process. **You should not explain the extent or nature of the collaboration here, as that is covered later**.

4. Case for support

This is the main part of your application. Here you must demonstrate that your proposal contains an original and independent research project within the remit of the 10 broad engineering categories given in the previous section. Proposals that are simply an extension of your PhD project or are closely aligned to the work of your PhD supervisor are unlikely to be viewed favourably.

Q – Goals and objectives

Please state the goals and objectives for your research project. You should include details on how novel, realistic and ambitious the project is. Please note that if awarded your performance will be assessed against these objectives.
You have 200 words for this question.

Q - Timeliness and novelty

Describe why this research is important and why it should be conducted now.
You have 250 words for this section.

Q - Methodology

Please provide a detailed description of the exact work to be completed. Describe the programme of work, indicating the research to be undertaken and the milestones that can be used to measure progress. Detail the methodology to be used in pursuit of the research and justify this choice. What similar research is being/has been undertaken nationally and internationally and how does your project differ?
You have 1,500 words for this section.

Q – Images and diagrams

Upload any images and/or diagrams related to your project that add value to your application. You should reference them in your response to the methodology question. **You can upload a single pdf document only**, so collate pages if necessary and ensure you order them in the way you wish them to be viewed.

Q – Reference list

List the reference material referred to in your methodology. Where possible include web links to any open access articles to help reviewers locate the articles quickly. You may want to highlight the most relevant ones.
You have 700 words for this section.

Q – How does your research proposal meet the ODA guidelines? (question for EDRF applications only)

Provide an ODA justification statement. You should consider using the questions below when preparing this statement.
- Which country/countries on the DAC list will directly benefit from this research proposal?
- How is your proposal directly and primarily relevant to the development challenges of the country/countries?
- How do you expect the outcome of your proposed activities will promote the economic development and welfare of the country/countries?

You have 500 words for this section.

Q – Project timeline

You are required to upload a Gantt chart or equivalent to show the schedule of activities for the duration of the Research Fellowship. Please ensure major milestones are clearly plotted. You may wish to include a diagram showing how the work packages and your collaborations will interact.
You can upload a single pdf document only, so please collate pages if necessary.

Q – Project management

Describe how your research proposal will be managed. You may wish to refer to the Gantt chart. You should include suitable milestones and identifiable deliverables. Your progress will be reviewed against this plan.
You have 200 words for this section.

Q – Risks: identify and assess any risks that may jeopardise the project's success

Risks will not necessarily be perceived as weaknesses. You should use this opportunity to demonstrate your management skills and awareness of potential problems.
You have 200 words for this section.

Q – Collaborations

Provide details of any collaborations you intend to create and/or maintain during the Research Fellowship. Use this opportunity to show how you are connected to a wider network than just the host institution, to access appropriate skills and expertise to enhance your research and its impact. Explain who you will/want to work with and why. Collaborations can take many forms, including financial contributions, access to facilities and equipment, provision of equipment/materials/supplies/services, access to data and results, provision of staff (e.g. a secondment), advice, mentoring, participation in a steering group, expertise, networking/introductions. This covers both internal and external collaborations.

You have 500 words for this section.

Q – Letters of support (optional section but it is your opportunity to demonstrate wider support for you and your project)

If you do not currently work at your chosen host institution, then your current employer is excluded from submitting a letter of support. However, they can be referred to in the previous question on collaborators.

Letters of support must:
- be on headed paper and clearly state who they are
- be external collaborators so people and organisations NOT working at the host institution and its affiliates
- be signed
- confirm that the author knows the applicant
- explain why they are interested in the project
- provide details on what form the collaboration will take.
- clearly demonstrates the nature of the collaboration and how it will be beneficial to you and the project
- **be no more than two pages.**

As reviewers are asked to assess these alongside your plans for collaboration, aim for quality over quantity and keep the letters short and concise to better enable the reviewer to identify the salient information. A bullet-point list of contributions is a highly effective method of making the reviewers' role easier.

Please do not submit more than three relevant letters of support and ensure they are collated into a single pdf document.

Q - Beneficiaries and impact

Identify the groups in society that will benefit from the research, as well as any positive societal and economic impacts it will have. What are the benefits of this research and for who? Can you quantify the extent of the benefits/number of likely or potential beneficiaries? Can you identify specific groups in society? If the benefits do not directly

relate to wealth creation and/or to improving the quality of life, give details of other beneficiaries and explain their importance.

You have 200 words for this section.

Q – Exploitation

Describe the ways you plan to exploit your research, including the industry/public sector partners that you will collaborate with to achieve this. Here you should explain how you will ensure the benefits and impacts will be delivered. You should also indicate when these routes to exploitation are likely to be implemented, including if this will be after the Research Fellowship has ended.

You have 200 words for this section.

Q – Dissemination and public engagement

Indicate the proposed methods of dissemination and public engagement. How will the results and outputs be shared? How will you engage with audiences beyond the research and engineering 'worlds'? Participation in public outreach activities is an important element of a Research Fellowship.

You have 200 words for this section.

Q – Choice of host institution

Explain your choice of host institution. You may wish to comment on the facilities and local expertise that will be available to you. You should also cover what experience you have had and/or plan to gain from other institutions and alternative working practices. For example, any time spent on secondment or on extended visits.

You have 200 words for this section.

Q – Mentoring

Awardees will have an Academy Fellow as a mentor to offer advice and guidance for the duration of the Research Fellowship. What specific areas would you like advice on? What are the key attributes you would look for in a mentor and how do you think they would be able to help you? This is your opportunity to request support to grow into new areas.

You have 150 words for this section.

Q – Ambitions and future plans

Describe your future career plans and ambitions, including the anticipated size of your team, your reputation and employment status. How will you progress through the Research Fellowship? How are your future career plans and ambitions associated with the proposed research goals and objectives?

You have 200 words for this section.

5. Resources requested

Please see the relevant research grants office at your host institution for assistance with the costs section. The below categories explain what costs should and should not be

included in your application. You must be able to demonstrate that the resources requested in this application are justified and appropriate for delivering the proposed research.

Each application is capped at a maximum contribution from the Academy of £500,000 over the five-year period, at 80% of full economic costs.

5-1 Directly incurred costs

1) Staff

The Research Fellowship's aim is to support researchers at an early stage of their research career. The salary should be at a level commensurate with your skills, responsibilities, expertise and experience. It is expected that requested salaries will be comparable to postdoctoral researcher or early-stage lecturer salary scale points. The Academy reserves the right to provide support at a different level if it is considered appropriate.

The Research Fellow's salary can be requested for a period of five years full time equivalent. Salary increments over the period of the Research Fellowship should be considered in the costs, but possible future pay awards should not be anticipated and inflation should not be applied. In addition, the Academy is not able to cover the costs of the apprenticeship levy on research grants. Salary costs do not need to be justified in the 'Justification of costs' section, but are expected to be in line with the starting salaries of early-career researchers.

Research Fellowships may be held on a part-time basis if the applicant is to employed part time (minimum 50%). Applicants wishing to hold the award on a part-time basis must state the % time in the 'Justification of costs' section and explain why part-time working is requested. The costs table should be completed as if it will be a five-year full-time fellowship. This will be adjusted accordingly if the award is offered.

PLEASE NOTE:
- No other staff salaries can be requested as part of a Research Fellowship
- The Research Fellowship must be the Research Fellow's only source of employment. Research Fellows are encouraged to apply for further funding, but these grants should not include a salary component paid to the Research Fellows themselves.

2) Travel and subsistence

You may request travel and subsistence costs for activities directly linked to the research project, if they are for the Research Fellow. You cannot request travel and subsistence costs for anyone other than the Research Fellow.

Travel costs should be based on the most suitable and economical form of travel. Subsistence costs should reflect the normal rates that apply in the host institution.

Costs for attending national and international conferences may also be included where such attendance will be directly benefit the research project. Conferences should, as far as possible, be individually identified in the proposal with attendance costs and fees fully justified in the 'Justification of costs' section.

3) Other costs

Other costs should be specified and justified in the 'Justification of costs' with details provided in terms of their requirement for the research project. Examples include purchase or hire of small items of equipment, computer software licences, laboratory consumables, purchase of specialist publications, publication/printing costs, professional membership subscription fees or training costs. Unless the need for significant computing power can be justified, no computer should cost more than £1,500 and you should not request more than two computers over the Research Fellowship.

PLEASE NOTE: The Research Fellowship does not provide for any single item of equipment or upgrade to existing equipment costing more than £3,000 (including VAT). Should any item of equipment comprise of multiple separate items that are purchased individually and then combined to make a single functioning system, the cost of the entire system should not exceed the £3,000 limit.

Researchers are expected to make full use of any equipment that is already available to them at the host institution and should therefore only request funding for equipment that is necessary and not currently available.

5-2 Directly allocated costs
1) Estates

Research Fellows may apply for estates costs over the entire duration of the Research Fellowship. Please consult with your proposed host institution for guidance as to these costs. Estates costs do not require justification in the 'Justification of costs' section. Where the Research Fellow will be away from the host institution for a period of six months or more, estates costs should not be requested for that period. In such situations, this should be confirmed in the 'Justification of costs' section.

2) Other directly allocated

Other directly allocated costs can be requested, calculated on the basis of estimates. Potential costs include research/technical staff whose time is shared across several projects and charge out costs for existing equipment, for example access to departmental SEMs and analytical facilities. You cannot request salary costs for specific technicians, but you can request pool technician time costs.

Costs for major facilities, such as those supported by STFC, cannot be requested. If such facilities are required for the project, the applicant should contact the facility in question

to determine access requirements. If access to a facility is essential to the research programme and hence the Research Fellowship, both access to and external funding for the cost of the facility must be secured within one year of the proposed start date of the Research Fellowship.

5-3 Indirect costs

1) Indirect

Please consult with your host institution for guidance as to these costs. Research Fellows may apply for indirect costs over the entire duration of the Research Fellowship. Indirect costs do not require justification in the 'Justification of costs' section. Please refer to the efficiency savings published by RCUK in March 2011 when submitting your figures for indirect costs. Your research office will be able to assist.

Q – Costs table

Applicants must consult the host institution's research grants office to provide advice on the cost elements that are required. The costs for Research Fellowship applications must be calculated using the full economic costing model (fEC). The Academy provides 80% of the fEC for each Research Fellowship – up to a maximum of £500,000. The host institution is expected to provide the remaining from its own funds or other grants. Please ensure that you allow plenty of time for your research office to prepare these costings.

PLEASE NOTE: Some of the cells are auto-calculated and all values submitted should be rounded up to the nearest pound.

Q - Justification of costs

Please provide a descriptive breakdown of the funding requested. Ensure you have adhered to the guidance provided for allowable costs as detailed in this document. The justifications should be a narrative description of what resources are being requested and why. It should include:

- all necessary justifications for costs included in the costs table
- to what extent the equipment requested will be used by other researchers and what equipment you are not requesting funding for (or for which you are requesting funding at a reduced rate) because suitable equipment is already available to you
- what costs will be covered by other sources, for example industry or existing grants, so are not being requested as part of the application
- if relevant, an explanation of why you wish to work part time and at what rate.

You have 400 words for this section.

6. Statement of support and declaration

This section seeks confirmation that the applicant has provided accurate information and will update the Academy of any material changes that may affect the award. It should also

confirm that the host institution will support the Research Fellowship. Your chosen host institution may have an internal selection process to choose which applications to support. You must upload your host institution's letter of support, as explained below and then tick the box confirming the information provided is correct.

Q – Host institution/university letter of support

The head of department or school, pro-vice-chancellor or dean at the host institution/university must provide a statement in support of the application. The statement should be on headed paper and signed. The deadline will not be extended for the relevant people/person's unavailability.

The statement should be **a maximum of two pages** and address the following areas:

Suitability of the applicant:
- Quality of the applicant's research track record.
- Potential of the applicant to become a future leader in their chosen field.
- Potential to act as an ambassador and advocate for engineering research.
- Details of your institution's mechanisms to ensure only the highest calibre of candidates are submitted to this scheme.

Support and commitment from the host university:
- Alignment of the proposed fellowship with university research strategy and priorities.
- Details of mentoring and resources (e.g. PhD studentships) that will be provided to the candidate should the application be successful.
- Other university activities (teaching, committees, etc) the candidate will be expected to undertake.
- Detail the career development support that the applicant will be offered.
- Details of how your institution adopts a proactive approach in encouraging researchers from underrepresented groups, especially women, to apply.
- Evidence of your commitment to equality and diversity.

The Academy expects institutions to be committed to, and provide support that aligns with, principles set out in The Concordat to Support the Career Development of Researchers and The Concordat for Engaging the Public with Research.

Q – Institution/university declaration

The declaration from the applicant's host institution/university should be completed by an appropriate officer/position from the central research grants office or equivalent. The letter should be on headed paper and should carry the signatory's name and position and the institution/university's official stamp (if applicable). The purpose is to check that the university is in principle willing to host a Research Fellow, subject to contract. The letter must confirm the application has been approved by the institution/university and

must contain the exact wording given in the box below, as well as any further remarks the university wishes to make.

> On behalf of the institution/university I can confirm that I have read and accept the application guidance and other information regarding this award scheme, which is provided on the website of the Royal Academy of Engineering.
>
> I also confirm that:
> - ➢ the costs submitted in the application are correct and sufficient to complete the project as envisaged. Any shortfall in funding discovered after the award has been made will be covered by the university, potentially through other grants
> - ➢ the applicant will be employed by the university for the duration of the award
> - ➢ if awarded, the applicant will be given full access to the facilities, equipment, personnel and funding as required by the application
> - ➢ the applicant's teaching and administrative duties will be restricted to enable them to dedicate their time to research
> - ➢ the applicant will be provided with all the support normal for a permanent employee
> - ➢ I am authorised to approve the submission of applications for funding and this application has successfully met all our internal approval procedures.

Q – Applicant declaration

Please complete with your full name and position once you have read and understand the declaration written in the application form. Once the entire application form is completed, a grey **'submit application'** button will become available to the top right of the screen.

Please note that once submitted the application cannot be edited, but you may view it from your GMS account. You may also want to print a copy of the application at this point.

Assessment process

Stage one: general reviews

Each eligible application will be assessed by three reviewers (Academy Fellows or former Research Fellows). The application should be written to help non-expert reviewers understand the research content. Based on the reviewers' comments and scores on each application, a sift panel (consisting of Academy Fellows) will conduct moderation reviews and select applications proceeding to stage two: expert reviews.

Applicants will be informed of the result of stage one by **Monday 16 December 2019**.

Stage two: expert reviews

Each selected application will be assessed by three expert reviewers. The expert reviewers will be asked to provide comments, a score, and key technical questions (if any) that the applicant should clarify. The technical questions will be forwarded to the applicant for their responses in early March 2020. This will be followed by a shortlist panel to moderate the expert reviewers' scores and comments along with the applicants' responses to the technical questions to shortlist candidates for stage three: interviews. Applicants will be informed of the result of stage two by **Tuesday 14 April 2020**.

Stage three: interviews

Interviews will take place at the Academy in London on **29, 30 April and 1 May 2020**. Each interview will be judged by a panel of four to five Academy Fellows and will be 30 minutes long. This includes a five-minute presentation from the candidate.

The ranking of candidates during the preceding shortlist panel will have no bearing at the interview stage. All interview candidates are considered to have equal standing. Following the interviews, the panel will rank the applications and select the top ranked candidates for awards.

Assessment criteria

At each assessment stage, reviewers will provide comments and score against the following assessment criteria, the overall quality of the application, and provide a recommendation on whether the application should proceed to next assessment stage. The panellists will moderate the reviewers' comments and scores, rank order of the applications, and decide the applications that will proceed to next assessment stage.

1. Candidate
- Quality of the applicant's research track record.
- Potential of the applicant to become a future leader in their chosen field.
- Potential to act as an ambassador and advocate for engineering research.

2. Research quality and vision
- Quality of the applicant's research vision and their potential to establish an independent research career in their chosen field of engineering.
- Quality of the proposed research programme including: timeliness, novelty, vision and ambition that are achievable within the five-year research timeline.

3. Research environment
- Quality of the research environment provided by the host university.
- The host institution's quality and level of support and commitment to the Research Fellow's career development.
- Quality and level of support and commitment from collaborators.

4. Resource and management

- Quality and effectiveness of the proposed planning and management and on whether the requested resources are appropriate and have been fully justified.

5. Beneficiaries and impact

- Extent to which beneficiaries will benefit from the proposed research and the potential to translate research outcomes into societal and economic impact.

In addition to the assessment criteria above, the following assessment criteria will be considered for EDRF applications to meet the ODA guidelines:

- seek to investigate a specific problem or seek a specific outcome which will have an impact on a developing country or countries on the DAC list
- provide evidence as to why this is a problem for the developing country or countries
- address the issue identified effectively and efficiently
- use the UK's strengths to address the issue, working in collaboration with others as appropriate
- demonstrate that the research is of an internationally excellent standard
- identify appropriate pathways to impact to ensure that the developing country benefits from the research.

Common mistakes

The most common reasons applications fail are given below:

- Lack of novelty in research
- Lack of independence in research
- Poor communication skills, both written and verbal
- Unrealistic research proposal (for example, overstating the potential for impact of the research and the applicant's reputation)
- Lack of ambition and vision that shows great potential to become future research leaders
- Weak letter of support from the head of department/school at the host institution
- No industrial/clinical collaborations planned
- Inconsistent information provided in the application form

For all queries please contact the Royal Academy of Engineering's research programmes team at research@raeng.org.uk