Royal Academy of Engineering

Reviewer Guidance notes:
DSTL/ Royal Academy of Engineering: Research Chairs and Senior Research Fellowships in Information Fusion

Contents

Introduction

The aim of this review stage is to provide expert peer review to the Panel to enable the selection of candidates for interview. Reviewers should give each application a score out of 7, and a Yes/No recommendation on whether they should proceed to the interview stage.

The reviews should be submitted online through the [Academy's Grant Management](#) [System](#).

Confidentiality

Applications and reviews are submitted to the Academy in confidence.

- Reviewers should not discuss or share the application with any third party, without prior approval from the Academy.
- Reviewers should not discuss the application or have any contact with the applicant.
- Reviewers should not retain any copies of application documents once their role as reviewer has been completed.
- The identity of reviewers will not be made known to applicants but may be revealed to other members of the assessment process.

Conflict of Interest

Reviewers should inform the Academy if they believe they have any conflict of interest, or could be perceived by others to have a conflict of interest, which may affect their ability to provide a fair and independent review of an application. The Academy will then decide on the appropriate course of action. Conflicts include, but are not limited to, knowing the applicant outside of or through work, having a working relationship with their organisation, or having a commercial interest relevant to the application.

Diversity

The Royal Academy of Engineering is committed to diversity and inclusion and welcomes applications from all under-represented 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, gender and sexual orientation. For more on Academy diversity activity and policy please visit: https://www.raeng.org.uk/diversity-in-engineering.

Part-time and flexible working

The Academy wants to support applicants to achieve a balance between their personal and work demands and will consider individual requirements and part time and other flexible working arrangements. Research Chairs and Senior Research Fellowships can be held part time (at no less than 25% of the full-time equivalent) this must be clearly stated within the application.

Impact of COVID-19

During these uncertain times, the Academy understands that some applicants will have their research activities severely hampered, or in some cases stopped, due to Covid-19 restrictions. We will try to ensure that individuals are not penalised for any disruptions to their careers that may have been caused by the pandemic. With this in mind, here are some general principles for reviewing applications:

Please take into consideration the unequal impacts that COVID-19 related disruptions might have had on individuals, universities and industry partners and bear in mind that they may not have chosen to disclose information.

Reviewers should assume that any changes that arise from the COVID-19 pandemic, post-submission, will be resolved and these should not affect their scores.

Declaration on Research Assessment (DORA)

The Academy's research programmes are aligned with the [Declaration on Research Assessment (DORA)](#), which is a set of principles aiming to improve the ways in which the output of research is evaluated by funding agencies, academic institutions, and other parties. The outputs from research are many and varied, and as a funder of engineering research the Academy needs to assess the quality and impact of these outputs in order to make awards - it is thus imperative that research output is measured accurately and evaluated wisely.

In the assessment of research output, we would like to emphasise that all outputs are welcome and considered valuable to the Academy. Outputs can include open data sets, software, publications, commercial, entrepreneurial, or industrial products, clinical practice developments, educational products, policy publications, evidence synthesis pieces and conference publications. With regard to research articles published in peer-reviewed journals, the scientific content of a paper is much more important than publication metrics or the identity of the journal in which it was published.

We value and appreciate the time and effort that reviewers give to support our research programmes. A good, helpful review for the Academy is one which assesses research on its own merits rather than by surrogate measures, such as on the basis of the journal in which the research is published.

Guidelines on the use of generative AI in the grant application process

1. Exclusion of AI in Evaluation: Assessors must refrain from using generative AI tools to make judgments or write feedback on grant applications. The Academy's approach relies on the expertise of its Fellows (or other assessors identified by Fellows or Academy staff) in evaluating applications and passing on their knowledge to the next generation. Any reliance on machine intelligence is not in line with our established working methods.

2. Confidentiality of Application Content: Assessors are explicitly prohibited from sharing the content of grant applications with any generative AI tool as this can lead to the submitted data being used for other purposes. Maintaining the confidentiality of the application materials ensures the integrity of the assessment process and upholds the trust placed in the Academy's evaluation procedures.

3. Detection of improper use of AI: At present the Academy has no formal tools for identifying whether AI has been used in generating content (although it may seek to acquire such tools in future, subject to strict data security requirements), and therefore is primarily relying on honesty and integrity from applicants. However, the use of current tools can generally be

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identified through close reading, particularly if the applicant has also been interviewed. Exceptionally, assessors may request a short interview with applicants that they would otherwise not have interviewed prior to confirming funding, to build confidence that there has not been improper use of AI tools.

National Security

The Academy is the UK's National Academy for engineering and technology and seeks to increase the potential positive benefit that innovations can have for society, whilst reducing the risks of harm. Hence, in all our activities, we seek to minimise the risk that technology developed as part of work that we support could be misused by a foreign state to build a capacity to target UK interests in a hostile fashion or to control or repress their population. There is a risk that for some grant activities, failure to protect IP and a lack of due diligence into collaborators could result in sensitive technology being transferred to and misused by a hostile or repressive foreign state.

National security risks are managed in the first instance by the Academy's steering group and its National Security Research Group, and the Academy does not, therefore, require expert reviewers to focus on these issues. Any concerns raised by reviewers, however, will be directly passed on into our internal processes.

If you believe there is a security risk, please contact the Programme Manager Joel Chen at Joel.chen@raeng.org.uk

The scheme

Over the last thirty years, the Academy's highly prestigious Research Chairs (RC)/Senior Fellowships (SRF) scheme has successfully supported numerous academic appointments and enhanced internationally renowned centres of excellence. The special round of the scheme supports exceptional academics at UK higher education institutions to undertake use-inspired research that meets the needs of Dstl.

This special round will accept applications in "**Architectures for information fusion in sensor networks for military intelligence, surveillance and reconnaissance (ISR)".** How, where, and when should information be processed in sensor networks to provide military commanders with effective information?

The Defence Science and Technology Laboratory (Dstl), which is part of the UK Ministry of Defence (MOD), invites proposals for a Royal Academy of Engineering Research Chairs and Senior Research Fellowship to undertake research that will advance the fundamental theory of information fusion in decentralized sensor networks.

Awardees are expected to:
- establish or enhance a world leading engineering research group.
- deliver 'use-inspired' research that meets the needs of Dstl.
- disseminate the outcomes of their research for appropriate academic use.
- become a self-sustaining research group by the end of the award (by securing substantial external grant income).

Host institutions are expected to:

- adopt appropriate mechanisms to ensure only the highest calibre of candidates are submitted to this scheme.
- adopt a proactive approach in encouraging researchers from unrepresented groups, especially women, to apply.
- evidence of 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.

Online grant system

Applications have been submitted through the online grants system at https://grants.raeng.org.uk and reviews must also be undertaken on the system.

You may already have an account with the Academy, for example from being a Fellow or when you applied for events or grants, and the same login details should be used.

Once logged into the system, you will be presented with the application you have been allocated to review. Clicking on the application reference number (in the format RCSRF2425-xx-xx) will take you through to the application summary page, where you can view the application and access the review form.

Please save your reviews frequently, using the Save buttons. **If you do not click the 'Save' buttons within 120 minutes, the system will timeout and you will lose your work**. Furthermore, please avoid having multiple Flexi-Grant windows opened at the same time.
A visual step-by-step guide on using the system has been sent to you along with this document.

Feedback

Where possible the Academy will provide feedback to candidates. Please ensure that any comments provided are gender-neutral and are both complete enough and specific enough to allow the Academy to derive useful feedback. Unsuccessful Applicants may well go on to be successful in other activities with the right guidance.

The review forms.

For each application, reviewers should provide:
- commentary against each assessment criteria (see below)
- an overall score out of 7 and comment on the overall quality of the application
- a YES or NO recommendation on whether the applicant should proceed to next stage

Each application will be peer-reviewed by at least **three experts** in the subject area (usually Fellows of the Academy).

Following peer-review a selection panel (comprising of Academy Fellows) will be convened to evaluate all applications and select candidates for interview.

1   *Quality of the applicant*
- Quality of the applicant's research track record and the academic quality of the underpinning basic research.

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- Quality of the applicant's research vision and their potential to establish or enhance a world leading research group at the host university in their chosen field of engineering.

2   *Quality of the collaborative research programme*
- Quality and significance of the proposed 'use-inspired' collaborative research programme (including timeliness, novelty, vision and ambition).
- Quality and effectiveness of the proposed planning and management, and whether the requested resources are appropriate and have been fully justified.
- Consideration of diversity and inclusion in research and team development.

3   *Strength of the strategic partnership*
- Assess the strength and how to manage the relationship with DSTL and the host institution.
- Commitment and level of support from the host university.

4   *Beneficiaries and impact*
- Evaluate the extent to other beneficiaries will benefit from the proposed collaborative research programme.
- Potential to translate research outcomes into societal and economic impact.

5   *Financial costing of the proposal*
- Evaluate the quality and level of the financial contribution from the host institution.

SCORE

Reviewers must also give an overall score out of seven as defined below. Reviewers are encouraged to refer to these indicators in their comments and where possible to provide evidence from the application itself as this will greatly assist the Panel in the decision making and selection process.

Grade	Rating	Indicators	Recommendation to interview stage
7	Outstanding	Applicant is a very strong fit for the award, a leading academic in their field, head of a world leading research group, excellent choice of host institution and strong support from host university including additional funding. Excellent relationship with Dstl to carry out the proposal. Proposal is novel, ambitious, achievable, and shows great potential for significant wide-reaching impact.	**YES**
6	Excellent	Applicant is a strong fit for the award, a proven academic in their field, head of a potentially world leading research group, excellent choice of host university, strong support from host university. Good relationship with Dstl to carry out the proposal. Proposal is novel, ambitious, achievable, and shows potential for	**YES**

		significant wide-reaching impact.	
5	Very Good	Applicant is a good fit for the award, a proven academic in their field, head of a potentially world leading research group, good choice of host university, strong support from host university, good relationship with Dstl. Proposal is novel, ambitious, achievable, and shows potential for wide reaching impact.	**YES**
4	Good (Worthy, but uncompetitive for this scheme)	Applicant is a reasonable fit for the award, a proven academic in their field, demonstrated leadership and team building qualities, good choice of host institution, good support from host, good relationship with Dstl. Proposal is novel, ambitious, achievable, and shows some potential for impact.	**NO**
3	Average	Applicant is not a good fit for the award, lacks evidence of proven track record and leadership ability, reasonable choice of host university, standard support from host, reasonable relationship with Dstl. Proposal is somewhat novel, ambitious, achievable, and shows some potential for impact.	**NO**
2	Below average	Applicant is a poor fit for the award, lacks evidence of proven track record and leadership ability, poor choice of host university, little support from host, poor relationship with Dstl. Proposal is not novel, ambitious, achievable, and shows little potential for impact.	**NO**
1	Poor	Applicant is a poor fit for the award, lacks evidence of proven track record, poor choice of host university, little support from host, poor relationship with Dstl. Proposal is fundamentally incorrect and unachievable and shows no potential for impact.	**NO**

OVERALL COMMENT

Please provide a brief summary on the overall quality of the application and your recommendation (YES/NO) on whether the applicant should proceed to interview.

The commentary provided should justify the mark given and should enable the Academy to provide constructive feedback to applicants. This information will be used to inform the decision as

to which applications will proceed to the interview stage. Reviewers may be asked to provide additional information if their submitted comments do not contain sufficient information to validate the score given or for all panel members to assess and make an informed judgment.

Optional – Additional comments
Please add any other comments you wish to make, for Academy use only. For example, any perceived conflicts of interest, or questions to ask at interview.

Once a reviewer has completed a review form, the 'submit review' button will become available at the bottom left corner of the form. Please bear in mind that once submitted a review cannot be altered. Once complete, all reviews will be accessible by the Panel.

Sift panel meeting.

The Academy staff will collate all reviewers' comments and scores into a summary table and rank the applications by overall score and the Yes/No recommendations. These are presented to the sift panel with the representative from Dstl for a final decision on which applications should proceed to the interview stage.

Where there is a disagreement between panel members on an application, the following process should be followed:

- Each member of the panel should be offered the opportunity to give reasons why they agree or disagree with the decision and raise any concerns.
- Following this discussion, the members of the panel will be asked to indicate clearly whether they wish for the application to proceed or not. The consensus will carry the decision.
- If there is no majority, the Chair will make the final decision.

All decisions made at the meeting are final and binding.

Panel Members:
- Panel Members should not act upon any of the information they obtain through the applications and should not engage with applicants if approached.
- Any hard copies of application documents, or any electronic versions of application documents saved locally, must be destroyed/ deleted upon completion of the selection process.

Contact

If you have any further queries on the review process or on using the grants system, please contact the Research team at research@raeng.org.uk