

SHOULD I APPLY FOR AN ARC FUTURE FELLOWSHIP? – GUIDELINES

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Synopsis

ARC Future Fellowships (FFs) fund projects that advance theory or practical application of concepts in particular disciplines. The scheme is specifically targeted at mid-career researchers who have been awarded a PhD on a date that falls between 5 and 15 years of the closing time of submissions. Applications are extremely competitive with an average success rate of around 18%, which varies slightly depending on discipline. Discipline fields supported by the FF program are Biological Sciences and Biotechnology; Engineering, Mathematics and Informatics; Humanities and Creative Arts; Physics, Chemistry and Earth Sciences; and Social, Behavioural and Economic Sciences.

The objectives of FFs are to¹:

- attract and retain outstanding mid-career researchers;
- build collaboration across industry and/or research organisations and/or disciplines;
- support research in national priorities that will result in economic, environmental, social, health and/or cultural benefits for Australia; and
- strengthen Australia's research capacity by supporting innovative, internationally competitive research.

Further details on the FF program including funding rules and instructions to applicants can be found at

http://www.arc.gov.au/ncgp/futurefel/future_default.htm

Selection criteria¹

There are various factors you need to consider before beginning the process of writing an ARC FF application. The ARC ranks applications based on four broad selection criteria. I have listed each of these below, and their weighting, followed by notes on what needs to be considered under each criterion. These notes are arranged under key questions to guide applicants. The questions are primarily about your individual track record. FF applications can only be submitted by sole applicants that fit the eligibility criteria (although more experienced researchers may be listed as collaborators – see Question 17).

1. Based on 2014 funding rules: http://www.arc.gov.au/ncgp/futurefel/ft_fundingrules.htm

Future Fellowship levels

FFs are awarded at three different salary levels and it is important to align yourself with the correct level based on your current experience and academic position (or equivalent). The ARC provides specific guidelines for each level, details of which are available in the funding rules. It is important to consider these levels in relation to your career stage and the best time to submit an application. For Level 1, applicants must be at (or equivalent to) Academic Level C *or below*. Hence, you can apply for a FF at lower academic levels; the best time to apply is strongly dependent on your current track record and future research prospects.

It is likely that applicants to Level 1 will have less developed track records and less research experience than applicants at Levels 2 and 3. The ARC expects applicants at Level 1 to have recognition in their discipline at the national level and for their original research contributions to have had a significant impact on their field. If you are at the appropriate academic level and it is unlikely that your track record is going to improve dramatically in the near future, you may consider it prudent to apply for a Level 1 FF as soon as practical (guided by the advice in this information sheet).

Level 2 applicants to the FF program must have a current position that is equivalent to Academic Level D *or below*. Therefore, it is possible to apply for a Level 2 salary scale if you are a Level C academic, but your track record would need to be competitive at this higher level. The ARC expects applicants at Level 2 to have international recognition for their research contributions, and also to have been a leader in research excellence and research training (e.g. higher degree student supervision).

Level 3 applicants must have a current position that is equivalent to Academic Level E *or below*. Applicants at this level must have all the qualities of applicants at lower levels plus be able to show that they have contributed to high level research policy and can initiate and manage large research projects.

You should aim to submit a FF application when your track record is at its most competitive for the level you are targeting. In regards to publications, you should consider the number of outputs already published or accepted, publications in preparation, and your capacity to publish in the coming years. If your research track record is likely to improve substantially in coming years it may be prudent to delay submitting an application, mindful of the eligibility time span (5 to 15 years post PhD). Conversely, if your current position limits future research outputs, submitting as soon as practical may be the best option. Of course, number of publications is only one aspect to consider, along with journals published in, citations of papers and other measures of your track record (further comments below).

Criterion 1: Future Fellowship candidate 40%

The ARC and its assessors consider applicants research track record and in particular their research performance relative to the opportunities (time and capacity) they have had to conduct research (ROPE). Heavy teaching loads or administrative responsibilities that have limited the amount of time that could have been devoted to research are

considered, but research productivity is still expected under these circumstances. For FF candidates, their capacity and demonstrated leadership abilities to undertake the proposed research are also considered. Currently, the ARC asks you to summarise your track record over the previous 5 years (from the year of application) or an equivalent period if you have experienced career interruptions. The averages listed under the questions below should be considered with this time period in mind (although other measures of research experience such as career best publications can reflect your entire research career).

1. *Do you have a competitive publication record?*

While your research track record consists of a number of aspects, the most important is your publication output. To be competitive for a FF, you need to have a record of high quality research outputs sustained over a number of years, with regular publications in high impact journals or equivalent publication types (e.g. peer-reviewed conference proceedings). A competitive publication record for a Level 1 FF would have most of the following characteristics:

- An average of at least 5 publications per year (this could vary based on discipline norms). Journal articles are best, but this can include book chapters, refereed conference proceedings or other refereed outputs.
- An average of around 2 publications per year as lead author. I have assessed many ARC grants and in almost all cases applicants produce on average 1.5-2 publications per year as lead author regardless of how many total publications they have.
- At least 25-30% of your publications are in 'high impact' journals for your discipline.

For Levels 2 and 3, competitive publication records would likely be characterised by > 5 publications per year and a higher percentage in high impact journals or equivalent.

2. *Has your research been regularly cited?*

In assessing this question, think about your entire publication output, not just those produced in the last 5 years. Citation rates will be considered as part of your 10 career best publications (which can be from any year) or you may include citations elsewhere in your track record description. It is hard to put a figure on what constitutes good citation rates across different disciplines. You may be able to find global averages for your discipline on the web. For example, the global average citation rate for papers published in environmental science from 2000-2010 is 12.5 (Thomson Reuters' Essential Science Indicators database). If you are above global or national averages you can build a case that your work is highly cited. You may also compare yourself to your peers through avenues such as Google Scholar. Indices such as the H-index, M-index and i10-index are easily calculated (or available automatically) through databases such as Scopus or Google Scholar when you set up your own personal profile. These indices are increasingly being reported in the track record of grant applicants.

To be competitive for a FF, you should be clearly above the discipline mean for citation rates to demonstrate a good case for ARC funding (more so for Levels 2 and 3). Researchers just over 5 years post PhD will on average be less

cited than more experienced researchers because their papers have only recently been published. This is usually taken into account during grant assessments. If you are unable to demonstrate regular citations of papers published over the last 5-10 years then your track record is probably not competitive for FF funding.

3. Do key publications align with the topic of the grant application?

It is important to demonstrate a good knowledge in the field of the grant application. The easiest and most convincing way to do this is to have published peer-reviewed work on the topic of the application. Occasionally, I have assessed grant applications where the investigators had no publications and apparently little experience in the topic of the application. Not surprisingly, these applications were not funded. If you can demonstrate that you are an expert in the specific field that underpins your proposal, this will go a long way to placating assessors regarding your capacity to complete the project successfully. This is especially important for prestigious and highly competitive schemes such as FFs.

4. Have you published in 'high impact' journals?

In assessing investigator track record for FFs, the ARC specifically looks for demonstrated evidence of high quality research outputs relevant to your discipline. While the notion of 'quality' and how to measure it is debatable, where your work is published and how often it is cited are widely used measures (I acknowledge these measures have limitations – see below for additional measures of research quality). Regular publication in avenues (e.g. journals, conference proceedings) that are considered high impact or prestigious for your discipline is almost mandatory to be competitive for a FF. Your publication track record may be limited in this respect. This limitation is not fatal if you have been highly productive or can demonstrate research quality in other ways. However, I can almost guarantee that assessors will comment on the perceived quality of the journals/avenues that you have published in.

5. Have you attracted external grant funding?

Demonstrating capacity to attract external funding is important to maximise your chances of a successful FF application. Category 1 funding (nationally competitive grants) is best here though you shouldn't discount other funding (see below). Obviously the more funding you have attracted the better, but it is hard to place minimum bounds here. If you can demonstrate successful completion of funded projects and can link outputs (e.g. publications) to these projects that will hold you in good stead. Internal funding (i.e. from the institutions you work for) holds less weight in track record assessments, but it is important to include this also.

Funding is split into the following four categories:

- Category 1: National Competitive Grants (Commonwealth Competitive Grants and Non-Commonwealth Competitive Grants)
- Category 2: Other Public Sector Funding (Local Government; State Government and Other Commonwealth Government)

- Category 3: Industry and Other Funding (Australian Contracts; Australian Grants; Donations, Bequests and Foundations; International Funding and Other Funding)
- Category 4: Cooperative Research Centre Funding.

6. *Has your work been recognised as making an important contribution to your discipline or the broader community?*

In this section of the track record, it is important to demonstrate how you and your work have been recognised and valued by your peers and the broader community. For FF applicants, the ARC is specifically looking for evidence of national or international research standing and contribution to policy debates/initiatives. Evidence of broader research recognition can take many forms and includes the following:

- Positive reviews of published work by journal editors, peers (e.g. book reviews), post-publication assessment forums (e.g. Faculty of 1000) or other avenues.
- Invitations to sit on editorial boards, present key-note addresses, review grant applications, assess PhD theses, or contribute in some way to discipline advancement.
- Awards or other recognition for your work.
- Substantial, positive media attention including articles in well-respected 'generalist' magazines (e.g. New Scientist).
- Evidence that your research has guided or changed policy.

Demonstrating other forms of the impact of your work is especially critical if citation rates are not a typical measure of impact in your discipline, or your citation rates are relatively low. While citation rates are still central (and one of the easiest ways) to demonstrating impact, assessment committees appear to be moving beyond citation rates to consider other measures of impact.

Criterion 2: Project Quality 35%

In assessing this criterion, the ARC considers a number of factors including whether:

- your proposal addresses a significant problem;
- the work is innovative and original;
- outcomes will advance knowledge in the field;
- the design and methods are appropriate;
- the research has the potential to maximise economic, environmental, social, health and/or cultural benefit to Australia, and represents value for money;
- the research has the potential to contribute to public policy initiatives;
- the research addresses a Strategic Research Priority (listed below) and contributes to the advancement of knowledge in one or more of the targeted priority areas (also listed below).

The comments below focus on the most critical aspects of these evaluators.

7. *Can you demonstrate that your project addresses a significant problem?*

You should clearly argue why your project is significant, linking it to international trends in the field and major gaps in knowledge. You should be able to demonstrate how your proposed work will advance knowledge and have practical, tangible outcomes that have the potential to improve our society.

8. *Can you clearly identify where your project is innovative compared to past work?*

A clear statement (or series of statements) that outline the innovation(s) in your proposal is required to convince the ARC of the potential of the work. Innovations should build on past work and demonstrate how your proposal is new, exciting and furthers knowledge within your discipline. This should be more than just a few sentences. Develop a strong argument (with supporting citations) that convinces readers of the project's innovations.

9. *Will your research contribute to public policy, yield economic, environmental, social, health and/or cultural benefits, and does it represent value for money?*

It should be relatively straightforward to demonstrate either economic, environmental, social, health or cultural benefits of your research. To address the issue of value for money, you should develop an argument that clearly shows how the potential outcomes of your work will yield much higher value to Australian society compared to the funding being requested from the ARC. If possible, you should show how your research has the potential to reduce monetary costs or yield substantial monetary benefits in relevant areas. For example, your work may be focussed on reducing youth suicide rates in rural areas. Documenting the social and economic costs of the direct and indirect impacts of youth suicide, and how your research might alleviate these costs, is a good approach to address both the issues of the benefits of your work and the value for money of your project. You should also be aware of government policies relevant to your research, and how the results of your work may help guide the development of these policies.

10. *Does your research address a Strategic Research Priority and contribute to the advancement of knowledge in one or more of the targeted priority areas?*

It is practically a necessity to demonstrate how your work aligns with one of the current government's Strategic Research Priorities. These include:

- Living in a changing environment
- Promoting population health and wellbeing
- Managing our food and water assets
- Securing Australia's place in a changing world
- Lifting productivity and economic growth

Further details on each of these can be found at:

<http://www.industry.gov.au/Research/Pages/StrategicResearchPriorities.aspx>

These priorities are relatively broad and it should be possible for most applicants to align the topic of their grant application with one or more of these priorities.

For FFs, the ARC also lists targeted areas of national significance. These are: bioinformatics; computer system security; Indigenous health and wellbeing; managing innovation, renewable energy and green technology; pattern recognition and data mining; safeguarding Australia (especially electronic security, surveillance and detection); understanding culture and communities.

These targeted areas are quite specific, but if you can argue a case for why your proposal addresses one of these areas it will hold you in good stead. Not being able to align your research to one of these areas does not appear to be fatal, as the funding rules for FFs indicate that the ARC 'encourages' proposals in these areas. My interpretation of this is that proposals outside the targeted areas may also be supported, but may not experience the strategic advantage gained by proposals that clearly link to the targeted areas.

Criterion 3: Strategic Alignment 15%

The two most critical aspects of this criterion is how you and your research area align with the research strengths (or developing strengths) of the administering organisation (where you will work during the fellowship), and the resources that will be provided by the administering organisation to support you and your fellowship. The ARC also considers the facilities available to you to conduct the research, and whether you will be employed in a continuing position with the administering organisation after the completion of the FF.

11. Can/will CSU provide a strong statement of support for your proposal?

The ARC requires the administering organisation (CSU) to provide a statement within your proposal that details the research strengths of the organisation, describes how the applicant aligns with these strengths and complements the staffing profile of the organisation, and explains what role the applicant will play within the organisation once the fellowship is complete.

It is likely that you, the applicant, will have some input (possibly substantial input) into the drafting of this statement – particularly in the area of explaining how your research strengths and the topic of the proposal align with the strengths of CSU. This statement should clearly demonstrate substantial support for the applicant both during and after the fellowship, and explicitly document what type of support will be available (see details under Q12 below).

12. *Is there clear evidence that the research environment at CSU is able or willing to support the proposed research?*

There are various factors that the ARC considers under this criterion including peer and staff support, access to or availability of facilities required to complete the project, capacity and support to ensure the dissemination/promotion of outcomes and, if applicable, policies to handle issues such as commercialisation, patents etc. You should take a hierarchical approach to documenting the research environment available to support your work. This starts at the institutional level and may include the investment that CSU has made into research more generally and the administration support available to researchers (e.g. the Research Office). You may also describe how your project aligns with the strategic research priorities of CSU. Then consider any Faculty or Research Centre support available to you (e.g. Research Centre Fellowships). Finally, document any support available at the School or Discipline level within CSU.

Also consider the support available from your immediate peers (e.g. other experts in the discipline field), whether your school or discipline has a strong research track record (e.g. refer to recent discipline specific ERA assessments), relevant facilities that occur on campus or are readily available to you, and any monetary support that CSU is willing to provide the project. For instance, depending on the research area and size of the funding request, additional cash and in-kind contributions may be made from Faculty, Research Centre or Research Office budgets. These might include a PhD scholarship, Research Centre Fellowship, contributions of expertise for statistical analysis, data management or other support.

Criterion 4: Collaboration and Outreach 10%

All ARC grant schemes require applicants to describe outreach strategies that will be used to communicate their results to diverse audiences (e.g. journal publications, conference presentations, workshops, web pages, public forums etc.). The more critical aspect of this criterion for FF applicants is how the applicant will build collaborations across industry, other institutions or other disciplines.

13. *Does your proposal include a strong collaborative network?*

While this criterion is worth only 10%, applications that include strong collaborations will have a strategic advantage over those that don't. Demonstrating how you will collaborate, and why these collaborations are important, valuable and appropriate for the research area, is a key signal of your maturity as a researcher and your willingness and capacity to lead collaborative groups. Depending on your career stage, you may consider collaborating with more experienced researchers who can act as mentors for career development. You may also consider collaboration with industry if the results of your research will have clear implications for industry development or production. Cross-disciplinary collaboration is also becoming more common as researchers attempt to tackle complex problems that cross disciplinary boundaries.

Other considerations

14. Is your project feasible?

At various points within your application you will need to instil confidence that you can complete the project successfully, on time and within budget. Aligning the project aims with the proposed methods, personnel (and their expertise) and budget is critical here. It is relatively straightforward to demonstrate feasibility if you are clearly an expert in the field, have not developed an overly ambitious proposal, have provided sufficient details for project methods, clearly described the role of project personnel in completing the project (and the demands on each person are not unrealistic), and have paid enough attention to budget details to ensure successful project completion in the most cost effective manner.

15. Do you have enough time to write the application?

You need to devote a substantial amount of time to ARC grant applications to do a good job. **Review the timeline below** to determine if you are able to commit the necessary time and resources to producing a good FF application. The writing timelines are based on my own experience with feedback from other successful applicants.

16. Will you be in a position to start the project around 12 months after you submit the application, and can you commit 4 years to ensuring a successful outcome?

If successful, your FF project will start approximately 10-12 months after you submit the application. Funding for FFs usually covers 4 years. You need to consider whether you will be in a position to devote the necessary time to project completion given this time frame. Nothing will hurt your chances of future funding success more than an inability to successfully complete funded projects to a high standard and produce tangible and documented outcomes. Indeed, ARC applications have a section for reporting on the outcomes of past ARC grants. The ARC would expect very good outcomes from FF programs given that salary costs are covered in these schemes and successful applicants should be devoting almost 100% of their time to research.

17. Are you able to work with more experienced researchers?

FF applications can only be submitted by sole applicants that meet the eligibility criteria. However, you are still able to list other researchers who will contribute to the project. If you are at an earlier stage of your career (e.g. FF Level 1), you may consider listing more experienced researchers as collaborators on your project who can act as mentors for your research career. These individuals should also have relevant expertise to the research topic. Careful argument is required to convince assessors that the experienced researchers will take a strong mentoring role and will devote the necessary time to helping you complete the project. You may also list other collaborators who will fill knowledge or expertise gaps if there are aspects of the project that are outside your expertise.

Timeline

The following timeline gives some insight into the time required to plan and complete a high quality FF application, and provides guidance on key tasks that need to be completed at different stages of the application process. It also briefly describes the application process and milestones from the perspective of the Research Office. This timeline assumes that you have undertaken broader research planning and that a FF application is feasible for you at this time. It also assumes that you are not waiting on the outcome of a previous FF application.

Date	Researcher	Research Office (RO)
June/July	<p>Consider if you are going to apply for the next round of ARC FFs.</p> <p>Read the funding rules and information to applicants from last year's round to get an understanding of what is required (see http://www.arc.gov.au/ncgp/dp/dp_default.htm)</p> <p>*You will then need to re-read the new funding rules and information (usually available in August) for your funding round as these can change from year to year. This information is fundamental to completing an acceptable application.</p>	<p>The RO will request submission of an Expression of Interest so that they can commence preparation for communication /co-ordination of feedback from an external expert consultant and RO staffing requirements.</p>
August	<p>Begin writing a draft of the application in a word document.</p> <p>Application forms for the next round won't be out yet, but you have last year's forms and funding rules to guide your application and it is unlikely the new application forms will change format in a major way. Notify the RO that you intend to apply for a FF in the coming round.</p>	<p>The RO keeps a record of all researchers that have notified their intention to apply for FF funding in the coming round.</p>
September	<p>A rough draft of most of the application should now be complete. You should have also costed the major components of your budget to ensure you are asking for reasonable funding levels. You should also have plans B and C on what you will do when funding is cut, as it almost always is. You should have discussed your plans with your HoS and, if relevant, Centre Director (or immediate supervisor). These meetings should cover aspects such as whether the time, resources and funding commitments you need for the project are feasible, if some funding support is available through the school, faculty or research centre, how you will manage other commitments (e.g. teaching) if the proposal is successful etc. Any agreements to the provision of resources, funding or other support from within CSU should be provided to you in writing (e.g. email).</p>	<p>RO will advise confirmation of timelines</p>

	This written documentation will need to be sent to the RO with your application.	
Early October	A polished draft should now be ready and can be sent to an external grant consultant for feedback. Feedback should also be solicited from trusted colleagues. The RMS system with new forms is likely to be active now. You should begin entering text into all relevant fields rather than leaving this to the last minute (the system can crash if overloaded). Fields can be edited later on.	RO to organise forwarding of draft applications to external grant consultant for written feedback
Late October	Feedback returned from external grant consultant and you may have the opportunity to have a face-to-face meeting with this consultant to discuss your proposal. A more polished draft should be developed after this meeting.	RO to organise applicant meetings with grant consultant.
Early November	If you are organised, the final product should be ready by early November. Make sure all text is entered into RMS. Then polish, polish, polish. 3 weeks before the ARC closing date your application should be submitted to the RO (via RMS) along with a Notice to Submit Form and other supporting documentation.	The RO will coordinate a further academic and administrative review of your proposal and provide you with further written feedback for any last minute revisions (timelines and requirements will be advised). The RO will collate all documents in preparation for DVC-R approvals and submission.
Mid November	Application submitted to the RO via RMS	RO submits final proposal to the ARC via RMS
Late February	Assessor comments available. Rejoinders (applicant's response to comments) need to be submitted to the RO within approximately 2 weeks. An external grant consultant can provide feedback on rejoinder text (must be submitted via the RO 1 week after assessor comments are available).	RO will communicate timelines for submissions and submit rejoinders to the ARC
July – August	Depending on circumstance, announcements of funding can be made at any time during this period.	