PEER REVIEWERS' PERSPECTIVES

NSERC Discovery

How Discussions & Scoring Work:

[Discussions] are so fast. There's not much time to take it all in and then form your final opinion. We start with a straw vote—meaning we give our preliminary ratings right up front, and that tells us what points we agree on. There might be some areas where we need to think about things a little harder. The chair directs the conversation towards the areas where we have some disagreement.

We always have the evaluation rubric right in front of us, and we're constantly going back to that and saying, '**Okay, so these are the things that we're saying about this application, so where does that fit best on this rubric?**' It's fifteen minutes of really, really intense discussion.

Then, we rotate to another room and another group of people—I don't think I've ever had two in a row in which exactly the same people were evaluating multiple consecutive applications, unless they were in French. So we're rotating around and working with different people all the time, all day long. It's pretty intense.

- Reviewer 138
Genes, Cells and Molecules

Sometimes, you'll have one person on the panel that really understands what's going on; in some cases, there are no really good experts because of conflicts of interest. But we still have to evaluate it.

In my field, in the geosciences, a reviewer's expertise in a subject might date back to a course they took in their second year of undergrad. So, not quite an introductory level, but not too far from that—that's their level of expertise, and that's fairly common. The onus is on the applicant to explain their work in a way that we, as a panel with diverse expertise, can agree to. **So, think of a second-year course—that level of technical detail.** Of course, you'll also need to ensure that your external reviewers know exactly what you're getting at, but they don't score the application—the panel does.

- Reviewer 140
Geosciences

How Discussions & Scoring Work:

Applicants probably don't know that, **while the committee has about eighty members, we don't all meet together**: it's always five people at a time. Five people go through each grant in fifteen minutes, and then you swap to a different five people and you go through another grant. And we each have something like thirty-five grants to read—it's a lot of grants; it's a lot of work. So applicants need to make their proposals very clear and easy to read.

- Reviewer 121
Biological Systems and Functions

The week of evaluations [and discussions] is really fast-paced. It can be nerve-wracking because you've got fifteen minutes to make a decision that's going to affect somebody's research life and their future career. Had we not had such intense training, it would have been a disaster.

- Reviewer 124
Chemistry

As an applicant, I had no idea just how short the discussion is about each application. Five people read each grant, but really only one or two have the time to say something substantial about it. **Since Reviewers 1 and 2 speak first, their opinions count a lot,** and then the other three don't have much time to discuss things in depth. That was very surprising to me—I had thought there was more time for discussion.

- Reviewer 135
Genes, Cells and Molecules

It's a very intense week. I can't tell you how intense it is. It is probably the most intense week that I've had in my entire academic life.

- Reviewer 128
Civil, Industrial and Systems Engineering

How Discussions & Scoring Work:

I want to see the mathematics—I don't just want to have all words. I want to have some details about what you're doing. The application will go out to external reviewers who are experts in your area, so you have to give some details, but you also want to frame it in a way that is more broadly understandable, especially to non-experts who might be part of the group evaluation for your proposal. Don't just mention the name of a theorem and expect that the panel will have a deep knowledge of this theorem and everything around it and why it's important and who cares about it. **You have to describe what impact that proving that theorem would have on your field or the math community as a whole.**

- Reviewer 144
Mathematics and Statistics

There's a lot of research that's just stacking bricks: 'We're going to collect data on genome size in 500 more species of salamanders. This will allow us to test theories about genome size.' That's fine—there's a place for that. But then there's theories about how the genomes evolve, where somebody's going out and collecting new data to test some idea that, if it's supported, will transform our views of genomes. They're pushing back the frontiers on a big, important, and unresolved question. That's what I want to see.

- Reviewer 134
Evolution and Ecology

I would say that the proposals that tend to have the most positive outcomes are a mix of 'steady she goes' work—like, you're on a research track; this is your program; you're moving from A to B to C, with a novel component tossed in. So, some risk, but not 100% risk, as if everything is new. **It's people who have a track record and a research line, but then they've brought in a twist.**

- Reviewer 122
Biological Systems and Functions

How Discussions & Scoring Work:

These are *Discovery* Grants, but sometimes, there's not much discovery. I think that needs to be accentuated in the writing of the proposal: what gives this work some novelty? In my case—not in all reviewers' cases, but in mine—I am very happy for somebody to say that they don't know what's going to happen in a particular instance, as long as they give some idea of why they don't know. When an applicant already knows exactly every step of the research, **there needs to be some open-endedness, some room for discovery,** and even a contingency plan. If everything works, it's not research—at least, that's my experience.

- Reviewer 131
Electrical and Computer Engineering

We're looking for people doing innovative things. When someone has found something really new to work on, or when someone takes a new approach to an old problem—those can be really exciting. We get most excited when we see some real innovation. We know that people are going to build on what they've done, and that's fine, but if it looks like just more of the same, or routine extensions, that's a problem. Usually, we are looking for people to take some chances and to try something new with what they know.

- Reviewer 138
Genes, Cells and Molecules

I get particularly excited when it's a relevant problem, it's well-defined, it's high impact. And that comes across not because I knew it's going to be high-impact, but the applicant has gone through the effort of showing the impact of it.

- Reviewer 127
Civil, Industrial and Systems Engineering

How Discussions & Scoring Work:

Sometimes, what makes a proposal exciting is when two different streams, which look unrelated, are coming together to tackle a problem or to initiate a new kind of research which will enrich both streams. It doesn't have to be interdisciplinary—it can happen even within mathematics. For example, you could take something like topology, which is geometric and spatial, and bring it together with purely abstract algebra, say. Maybe that can give you deeper insights into some topological invariants you're looking at. It can be quite exciting when that is done well.

- Reviewer 142
Mathematics and Statistics

I'm really interested in curiosity-driven research—I'm not that much of an applied person, although I understand that applied research is also important. The program should be original, something different from the mainstream. For example, my committee gets a lot of kinesiology grants, many of them very similar. So, within that research area, when there is somebody else who has new ideas and a different perspective, that really excites me. **Sometimes, I get really interested in grants that are completely outside of my own research area because I find that they are so well written and so exciting.**

- Reviewer 121
Biological Systems and Functions

Physicists are not that great at selling their work. People are starting at a level where the first sentence is already something that would require ten minutes of further research in order to understand.

- Reviewer 148
Physics

How Discussions & Scoring Work:

Each application is going to be read by quite a broad spectrum of people. If I'm reviewing forty applications, the ones in which I'm truly an expert may not be all that many. And some applications will be read by a committee in which no one is an expert. Yet people tend to write their proposals for an expert—someone who knows what all the words mean, understands immediately the project's importance, understands the examples in detail. That's not actually typical of the people who are reading the application.

If you're lucky, you'll have one, maybe two, people who really understand the research topic and can very accurately gauge the depth of the contribution. **But there are five people reading the application, and if you don't explain to them why your idea is important,** they're not going to get anything out of your sample publications, and they're going to be counting up the number of papers you've published in decent journals, and they won't be getting a lot out of the description.

You've got to explain the point of your work to the non-experts, because get the same vote as everyone else. Even if the expert reviewer says 'this is brilliant for this reason and that reason,' the other people are going to say, 'well, that's not in the file'—because you are evaluated based only on what's written in the file. So you really have to explain it.

- Reviewer 143
Mathematics and Statistics

In the 'Benefits to Canada,' section, applicants often don't leave themselves enough space. They don't want to cut their text, so they include a very short statement that's maybe two or three sentences in length. That's never helpful—that's more detrimental than helpful. That section is evaluated on the grid, so it needs to be significant. So, short sections, such as a two-sentence paragraph—those things stick out. They signal, 'there's no effort here.'

- Reviewer 123
Chemistry

CV & Most Significant Contributions:

When I read grants, I look at the CV first. I want to see: who is this person? What have they been publishing? What is their field? Where are they located in their in their field? Where do they work? What activities are they doing?

- Reviewer 137
Genes, Cells and Molecules

What's nice about the NSERC process is that we're trying as much as possible to de-emphasize numbers. As reviewers, we're not supposed to talk about the number of publications—somebody might publish eighty papers in five years, while others might publish forty papers or twenty papers. **If the quality is high, that's what matters—not just the numbers.**

Now, often, people who publish a lot of papers are also publishing a lot of good papers, and so it goes hand in hand. But sometimes you get an applicant where they've published a limited number of papers, but they're all really good, and that stands out. So, it's about quality and impact, rather than just quantity.

- Reviewer 123
Chemistry

I'm looking for things that stand out: maybe if someone's become a member of the Royal Society—I'll notice that. If they spoke at one of the key international conferences, that seems relevant. But the list of twenty-five seminar talks that people have given—I mean, it's evidence of engagement with the scientific community, and that's important, but the actual details probably don't matter except in a few crucial places.

- Reviewer 143
Mathematics and Statistics

CV & Most Significant Contributions:

I always try to evaluate the excellence of the researcher first. I find that 'Excellence of the Researcher' is probably one of the easier categories to evaluate, because you can get a good idea about it based on things like past performance, the quality of the journals in which the applicant has published; they usually do a good job of summarizing their Most Significant Contributions and the impact that they've had. There are a lot of really highly accomplished mathematicians in Canada, so the applications do tend to be really great on average.

- Reviewer 145
Mathematics and Statistics

In the Most Significant Contributions, too often, people just provide lists of results from their papers. This is particularly excruciating in math papers, where people say, 'I proved this theorem' or 'we demonstrated this result,' or 'I made this hypothesis and we achieved a partial proof through …'—it puts me to sleep. I want to hear more about impact.

Pure mathematicians tend to work in a very specific area, building up a framework through small advances, little by little. Sometimes, the only people who really can appreciate what you're doing are other experts in your field, which is maybe twenty to fifty people in the world. And so people on the outside look at that and say, 'well, what's the contribution there?' **Even if it's a small field, I think it's important for applicants to articulate: What is the field's importance? How is the field progressing? Why are your contributions so important in that effort?** There has to be some extra detail to explain how this will affect the field of interest as well as other areas of math.

- Reviewer 144
Mathematics and Statistics

CV & Most Significant Contributions:

It's really helpful when applicants to put their work into context. I mean, impact factor is a thing; citations are a thing. But what I want to know is, is this the top food science journal? Maybe its impact factor is three but it is the top journal in the field, which gives it a different weight. **Too often, applicants don't give you the information that you need.** When you received that best paper award, was it at the top conference in your field? We need to be given that context.

- Reviewer 141
Materials and Chemical Engineering

I think **it's sinful to put in papers that are in preparation.** That's just not on. In my view, it looks like padding. It really bugs me when people do that.

- Reviewer 133
Evolution and Ecology

The number one problem I see with CVs are discrepancies between what's in the CV and what's in the actual proposal. Those are nightmares when you're reading thirty-five to forty grants and you're trying to figure out which piece of information is accurate. You may be inclined to suspect that what's written in the proposal may be more current, but you can't be 100% sure.

- Reviewer 125
Chemistry

CV & Most Significant Contributions:

I read the CV first to get an impression that tells me quickly if this is an active researcher and if their students are involved in the research. I look at the quality of the research, the venues of publication, how many people are involved in the papers. I look at the funding they've received, their invitations to speak, and their conferences. If they have a lot of collaborations, I still want to see what is done in their group—what their fingerprint is, whether they have an ongoing flow of results and graduate students. **The CV helps me to form a picture of the researcher.**

- Reviewer 141
Physics

We have to follow the rubric closely in our reviews, but it is imperfect. For example, the 'Quality of a Researcher' part is an additive process: you've published good-quality papers—so, you're 'strong'. You've also done XYZ—so, you're a 'very strong.' And then you're also working with the government, and it adds up, and then eventually you end up with 'outstanding.'

The other two categories are not additive. So not all three are evaluated the same way. As reviewers, we're always told, 'the rubric is absolute.' But there's at least one element in the rubric that is a comparative between researchers, and you cannot be absolute if you're also comparing. At the end of the day, I think we [reviewers] still get it right more often than we get it wrong, but it could be cleaner and easier for everyone.

- Reviewer 146
Mechanical Engineering

CV & Most Significant Contributions:

A very important aspect for me is consistency of information across the different parts of the grant. For example, from the CV, you can tell how the research efforts have been distributed in the group. If, in the past five years, the applicant has had three CIHR grants and one NSERC, and they've trained nineteen students in the CIHR Project and one MSc on the NSERC—and then they tell me that they're going to do all this research with their next NSERC—well, this story is not consistent, right?

- Reviewer 135
Genes, Cells and Molecules

I think that people don't understand how much the CV matters. It seems like people just throw in stuff, like they're vomiting information. Consider the HQP training. We want to know:

- Where have your students ended up?
- Did they end up graduating with a degree?
- Did they stay in academia?
- If they went into industry, did they stay in your field, or did they completely abandon it?
- Have you lost track of your students?

If you don't fill out the CV carefully—if you don't make it align with what's in your proposal—it makes it very hard for us to evaluate things.

- Reviewer 124
Chemistry

Lay Summary:

After the title, I read the non-technical summary. Some applications I read are not directly in my research area, so **the non-technical summary is very important.** They give me the gist of the proposal, and when they are well-written, they give me a lens into the proposal.

- Reviewer 126
Civil, Industrial and Systems Engineering

Sometimes I don't even read the summary, because too often it's different from what's in the proposal. If I'm confused by the proposal, I'll go back and look at the summary and see if it describes the point of the research. But, often, the summary is actually misleading; it doesn't represent what's in the proposal.

- Reviewer 137
Genes, Cells and Molecules

I read the abstract first, then the proposal, and then the CV. The summary should make clear the objectives you want to achieve, the background to your problem, the method you will use, and finally, the potential impact. The summary is like a very compact proposal; it shows that your problem is well-defined and your method is achievable, because that's what enables you to solve the theoretical, economic, or social problem.

- Reviewer 139
Geosciences

Objectives & Hypotheses:

There's a tendency in the long-term goals and short-term goals to be too general. Somebody will say, 'My long-term goal is to understand biodiversity.' I think, 'Okay, that sounds like everything.' The goals need to have some specificity to them. And then the hypotheses have to be such that they lead to predictions that lead into what is being done in the proposal. You need that structure.

- Reviewer 134
Evolution and Ecology

One thing that will really tank a proposal is insufficient scope—as in, the proposal is described as a series of short-term projects rather than a program of research. **Your discrete projects have to fit within a larger program,** meaning that your long-term objectives and broad aims have to cover the entire research program.

- Reviewer 136
Genes, Cells and Molecules

The objectives should be part of a unified whole. For example, there should be a connection between your objectives and your HQP—I want to see that those HQPs are tailored to cover your objectives, that they are matching. It helps with clarity.

- Reviewer 129
Civil, Industrial and Systems Engineering

Methodology:

Almost every proposal I read is trying to address a really important, really interesting question. Even if they're outside of the field to which I've dedicated my career, I still tend to think that all the questions are important. So, for me, **the excitement in an application tends to come not from the question, but from a well-thought-out research plan** that selects the right approaches to be able to answer the question, that will generate a really new insight. It's in the methodology where weaknesses most often come in.

- Reviewer 136
Genes, Cells and Molecules

The Discovery Grant's merit indicators are clear: 'the methodology is clearly described and appropriate.' When you're talking about methods, you want to be very specific.

- Reviewer 140
Geosciences

To convince the panel, you need to clearly describe why existing methods haven't yet solved a particular problem—that can be part of the lit review—and then why your methods will be able to solve it, and why you will be able to implement your methods. You need to stress that your methods are both appropriate and achievable.

- Reviewer 139
Geosciences

My experience is that, **when an application does not get a high assessment from the committee, it's because of the methodology.**

- Reviewer 130
Computer Science

Methodology:

One of the things that's often an issue is if people make it sound like it's all going to be easy—everything is going to work—because we know it's not easy, and we will have some fairly serious concerns if people do that. We're looking for signs that people have thought it through and have some thoughts on how they can work through problems that might arise.

- Reviewer 138
Genes, Cells and Molecules

In my committee, I think we'd all agree that we're tough in judging the proposal, and, often, the methodology is what's missing. Applicants say, 'I'm going to do this.' But how are you going to do it? 'I'm going to write a code.' You need to tell me more than that you're going to write a code; there's a million models that you could be using. That's where people will start losing points.

- Reviewer 146
Mechanical Engineering

The first thing that I'm looking to see is that the methods are realistic and doable—that the application is feasible. Some applicants write too generally: 'I'm using deep learning for a prediction'—that doesn't say anything, not substantially. The roadmap is not clear. I need to see a level of detail that shows that the work is doable. Too many applicants make this mistake; I've heard other reviewers complain about this too. **We see too general methods sections more often than we see too detailed ones.**

- Reviewer 129
Civil, Industrial and Systems Engineering

Methodology:

I always get upset when I see the use of too small samples in research, and it's quite common. Someone may have a huge number of publications, but when you actually look at them, the sample size is extremely small—that turns me off. And they often propose new research with similar small sample sizes. There are statistical methods to calculate what is an appropriate sample size for certain kinds of research, and some people don't use them.

- Reviewer 121
Biological Systems and Functions

EDI isn't just for the HQP section; it's not only about who is on your research team. It's also the content of your research.

A classic example is facial recognition. Or, for example, think about social robots—at the moment, they're all American. Well, what if you put that same robot in a Muslim society? Or even in Germany, or in Spain?

For instance, think of cultural differences in proxemics—how close you can stand to another person or to a robot. If you're French, you want the robot to be closer to you than if you are American. I recently met some researchers in Birmingham, and they brought in a cultural coach to help them to train their social robot so that it can respond to cultural difference within a single group, like, for instance, older adults. **Cultural differences are a part of EDI and they shape the impact our work can have.**

- Reviewer 130
Computer Science

HQP Training:

For NSERC, student training is an extremely important aspect of applications. I look at the past record of the applicant. How did their students do? What was their research output—their papers, presentations, and awards? Did they complete their degrees in appropriate amount of time? And if not, what was the reason? Obviously, the pandemic slowed down things, and we forgive for that. Looking to the future, the plan for the trainees has to be quite detailed. **What exactly is each trainee going to do?**

- Reviewer 121
Biological Systems and Functions

Some applicants include more details about the quality of HQP training than others, and I think it's important to include as much as you can. Show us that your training of previous HQPs is of high quality—things like presentations or posters given by the student, competitions that the student won, or even math outreach activities that the HQP took part in.

In a lot of cases, people don't include as much about HQP as they could. Err on the side of including more about HQP.

- Reviewer 145
Mathematics and Statistics

Something that I notice right away is when half of the HQP that come through someone's group have unknown outcomes. It's not the kiss of death or anything like that, but it makes me wonder: why do you not know where half the people who worked for you have ended up? That's sometimes also where you see discrepancies between the proposal and the CV—if the CV doesn't show where people ended up but the proposal says, 'HQP are ending up in these places,' then I have to wonder—which statement is true? Which do I believe?

- Reviewer 125
Chemistry

HQP Training:

Let's say that I'm a computation person. In my training program, I should describe what kind of computation software my students are being trained on, and how it will be useful in their professional carriers moving forward. EDI statements also need to be specific. **You have to say you know manage an inclusive atmosphere—how you've been doing it in the past, how you do it now, how you plan to do it, how you offset any challenges.** This is being reflected in very few applications.

- Reviewer 126
Civil, Industrial and Systems Engineering

For applicants from small institutions, a major issue is a lack of highly qualified personnel. If you're at a small institution, like I am, you have to explain how you use the resources you have available to you.

I remember one application where the PI worked with undergraduate students—quite a few of them—and they organized their research program around this fact. They figured that if they worked with a small group of undergraduate students for one summer, then those same students would be better prepared the next summer, and then they could break the project into smaller tasks. That was really cleverly done. When I saw the effort the PI took to organize it so clearly, I felt they really cared about their students and were trying to turn them into successful scientists, even with fewer resources than someone at a large institution might have.

- Reviewer 147
Physics

We're not supposed to look at numbers, but numbers certainly matter in terms of HQP training. And the applicants need to highlight the positive outcomes their students have achieved across all levels—undergraduate, Master's, PhD. [...] Over a four-year span, I've also seen how the EDI statement has evolved from being just a statement to a description of what applicants are going to do to advance EDI in their lab or their institution.

- Reviewer 122
Biological Systems and Functions

HQP Training:

In the HQP section, we look for a track record of training, a clear plan for training, and a match between the research plan and the HQP. Of course, we also look at EDI in terms of selecting HQP and training them in an inclusive environment.

- Reviewer 128
Civil, Industrial and Systems Engineering

It's not a numbers game; it's not about quantity. Instead, what we're looking for is indicators of quality. Can you demonstrate what quality looks like in your role? How is the training plan linked to your proposal?

- Reviewer 127
Civil, Industrial and Systems Engineering

One main deficiency we're seeing a lot is in the EDI section. It can be really poorly done; I think a lot of people aren't reading the introduction to the EDI section too carefully. As a panel, we're asked to evaluate whether applicants have identified challenges both at their institution and in the research field. **I would say maybe a quarter of the grants actually do a good job with that** and also give some action items that they could do to address those types of challenges.

- Reviewer 147
Chemistry

Some applicants are not getting the memo about EDI. We want to know about the challenges that are faced in your field, in your institution, in terms of recruitment and training and retention. But some people don't do it. They say something like, 'in my lab, I have 58% women and 37% non-Caucasian people,'—NSERC doesn't care about that. It's all about the procedures that are being put in place that will support your team.

- Reviewer 147
Chemistry

Budget:

The budget matters very little. As long as it's remotely reasonable, and you're spending most money on HQP, then most reviewers don't pay a whole lot of attention to it.

- Reviewer 133
Evolution and Ecology

The budget is the least-discussed piece of an application, because we have no say over how much money will be allocated. That's done behind the scenes, after the fact, based on where we've put merit indicators. So, the things that we look for in the budget are: does the budget make sense in terms of the proposal? For example, are you actually budgeting correctly for the proposal? Or are you saying that you need an outlandish amount of money? Like, do you need $8,000 for travel? And if you do, you better be proposing something that requires travel. Are you proposing to train fifteen new people, and then, in your budget, only allocating for two? In that case, where's the funding for all the other people coming from? Are you justifying that in your budget? All of those things are really just double-checks.

- Reviewer 124
Chemistry

What do we look for in the budget? For an NSERC budget: very little. You should have something there, and it shouldn't be outrageously high, but it also can't be too low, which might make us think that you don't understand what you need. We are not going line by line through your budget. We're not looking at its detail. In the discussions, we might say, 'the budget is okay'—and that might be all the discussion it gets.

Keep in mind that the budget will have no relationship at all to the money that you get awarded, except that you'll never get more than you asked for—so ask for more than you need, but not outrageously more.

- Reviewer 137
Genes, Cells and Molecules.

Budget:

The budget should be consistent, and there are too many proposals where the budget is inconsistent. To me, that's a telltale sign of deeper problems in the proposal. If I'm reviewing thirty-five or more proposals, there'll be three or four where the budget has inconsistencies. So, for example, when the budget justification does not match what is written in the proposal—I pay attention to that. **I mean, it's so difficult to get one of these grants that the least the researcher can do is make sure that there's no inconsistencies internally.**

- Reviewer 131
Electrical and Computer Engineering.

I know that NSERC wants to cover open access publications. I think, if you're putting article processing fees in your budget, make sure you give examples of what journal you've researched the publication costs for, and show us that your proposed journal makes sense with your prior publications.

- Reviewer 141
Materials and Chemical Engineering

Writing Quality & Grantscrafting:

A well-written application is one that moves smoothly between a general research program with long-term goals and specific research projects with detailed methodology.

- Reviewer 128
Civil, Industrial and Systems Engineering

When I read a proposal, I'd like to be able to read it—meaning, able to understand it. Sometimes, when I read proposals, they're extremely difficult to read. A really well-written proposal is one that is cogently written, where the clarity is there, where the reviewer—even if they're not able to understand all the detail of it—is able to understand exactly what the researcher is proposing to do. When that happens, it's a really good thing.

- Reviewer 131
Electrical and Computer Engineering

I get excited reading a grant when the figures are good, when it's clear what the molecules are, when I can see the logic of what's being proposed. Of course, it also needs to be a program in which the ideas are linked— so, if the first idea works, then it's going to lead to an interesting result, and that's going to lead to additional interesting work. And then, once all those things are done, then look at all the great things that we can do with this new knowledge, or new technology, or whatever. Lots of the proposals that we read are very technical and hard to follow; **the best ones are the ones that are easy to read.** They clearly explain what the goal is. They don't try to emphasize very minute details. They provide just enough detail without it being overwhelming

- Reviewer 123
Chemistry

Writing Quality & Grantscrafting:

Part of it is craftsmanship. The five-page proposal can be very dense. And considering five people all vote on your proposal, even though maybe only two of them have your expertise, you still need to connect with those five people. So it's this idea of having a story arc—the background, your contributions to the field, and information about how you're going to move it forward—how you're going to change things or make advances. **If you can convey a clear, concise message that is well-articulated and logical, and that is well-supported by what you've done—**that's going to carry those five reviewers closer to your funding ambitions.

- Reviewer 122
Biological Systems and Functions

Let's say each application is forty to fifty pages, and I have to review something like fifty applications. So that's, what, 2,500 pages? And sometimes the application might contain references to some previous papers that the applicant has published, and I might want to get a sense of what their potential contribution is—meaning, how much of their proposal is just extending previous work and how much is new. So that means I have to go back to the previous works that were cited and read them. That's how reviewing becomes much more than 2,500 pages that you have to read.

- Reviewer 142
Mathematics and Statistics

Given the volume of proposals that the reviewers are reading, I think clarity is doubly important. **The easier you can make it for a reviewer to parse and understand your application, the better—I think that gives you a definite step up.** The easier you make it to evaluate, the better.

- Reviewer 136
Genes, Cells and Molecules

Writing Quality & Grantscrafting:

One thing I find counter-productive is when applicants repeat the exact same information multiple times in different parts of their grant. For example, applicants describe previous work in their most significant contributions—and then again, in their research proposal, where there is a section about background and previous research, they might describe the same work in exactly the same terms. And then it'll also be in their CV! I'm like, 'okay, I understand!' A better use of space would be to emphasize different aspects of that same work, or use the space differently to bring in new information.

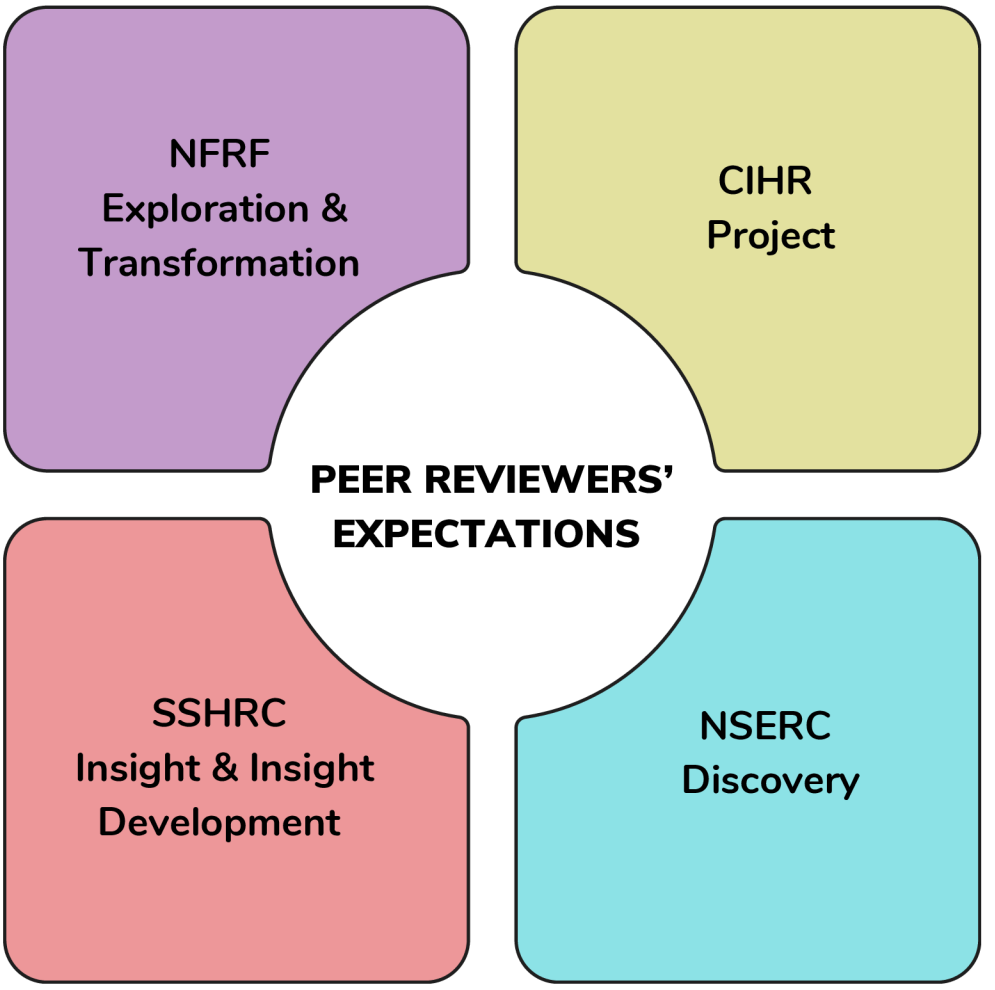
- Reviewer 135
Genes, Cells and Molecules

Clarity of explanation is very important. **This is a feature that distinguishes the outstanding applications from the strong ones—these people can write really well.** They really explain things very clearly, and when you read it, you understand what this is about. Visual aids such as graphs, figures, pictures—even basic formatting: the text is not too dense; they have good use of paragraphs. Everything is clear.

- Reviewer 142
Physics

Language is important, and I love reading proposals that are written in clear, simple language. Yes, you need to be a scientist to understand them—but applicants don't have to try to wow me with fancy terms.

- Reviewer 133
Evolution and Ecology



After interviewing 180+ former peer reviewers from a wide range of institutions and peer review committees, I've excerpted and categorized their words—their approaches to reviewing and expectations of applicants—and published the full series in 2025. When updated versions of these documents or new resources come available, I'll share them with subscribers to The Shortlist. Subscribe at: shortishard.com/the-shortlist

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