

Q&A Session for
2023 PI Launchpad Pre-application Information Session
February 24, 2023
Deadline for NOI submissions: April 14th, 2023

Q: When we talk about mission scope, there is a range of applicable "space" missions from suborbital APRA-level proposals all the way up to Probes. Are all levels appropriate for launchpad?

A: We are looking for mission concepts that would fit into an announcement of opportunity. So not part of ROSES but many of the techniques are still applicable to smaller mission sizes. We don't evaluate the size of your mission concept for this question, we're just interested in whether it needs space flight or not. Your mission idea could be achievable through something like a Pioneer's class which is a 20 million dollar class mission that is advertised through ROSES, but I would probably say if your investigation is like a balloon payload or a rocket that is sort of on the edge you might want to think about adjusting it to be more of a separate space flight investigation.

Q: Team science requires multi-disciplines and expertise. How much of an expert should we be for the project?

A: If you are the PI you should be the expert on the science that you are proposing. That is the most important thing and then some of the other components you talk with experts on things like optical design or mechanical design for these questions you're an expert on your science and you have an awareness of leadership and team building.

Q: Does the complexity of the proposed mission in the application have to reflect my career stage, i.e. does it have to be realistic that I'm going to actually propose and develop this mission?

A: We don't evaluate that, we are looking at just the answers to these questions. One pitfall that you could run into is if your mission cannot be done with current technology, it's hard to argue that it's timely right now, instead you should be working on technology development to make the mission possible. If instead your timeliness is about sending a probe to an object that won't be available until 2070, technically it's also not timely but you could make an argument for why it's important to start working on it now. We're not going to follow up and require that you have proposed these missions, it's more just that we need you to have a mission to work with throughout the workshop. We are attempting to make it very interactive and making sure that you have a mission that you can map out or start to talk to people about is the important thing. We don't ask people what career stage they are in, so if you're not going to do your mission until 10 years from now, that is fine we don't discriminate about that.

Q: What are the typical characteristics of a successful application, and what are some characteristics of unsuccessful applications?

A: Successful applications are very specific and they provide details on things that have happened to the person that was writing the application that are illustrative for the purposes of the questions. They don't necessarily deal in hypotheticals. They say "my leadership style is this because I experienced X, Y, and Z things as a team member on this other project". The more specific you can be and provide examples and what you learned from those examples the better the application is. Typically the unsuccessful applications are the reverse: they're very vague, they talk in broad strokes about the philosophy of the person but they don't provide details or backup about how that philosophy was developed or how it gets implemented in real life. Providing thoughtful examples is really important and answering all of the questions. We have a word limit for each of these questions at 500 words, you don't have to use up all 500 words but if one answer is only three sentences, that shows us that you don't really care about that question and we care about all the questions. It's important to feel like you've provided specific examples, you've answered the questions, and you're honest about yourself and what you care about.

Q: When writing the description of our science question, should we assume that the reviewers are outside of our field?

A: Yes the review pool is people from across different space science fields so your application may be evaluated by a planetary scientist or a helio physicist so you should make sure that it's understandable to another scientist who likes space but doesn't necessarily know anything about the specifics of your work. We are not evaluating whether the science is good or compelling. We are looking to see if you can explain why it's timely to do it now, why a space flight investigation is required, and that it meets the NASA requirements. So you should explain it well enough so that an outsider can understand that.

Q: Possible to share the slides? Thanks.

A: Yes we will post these on the website. We will try to capture all the questions and answers as well.

Q: Can you give examples of 'thoughtful communication'?

A: My version of thoughtful communication is that you describe the example that you are using and then you explain what was going on, why you made a certain decision, why you said certain

things, that you can explain both what happened and the thought process that was behind it, so we get an idea of the motivation. Why did you handle things the way you did, why you made certain decisions. We are trying to get a feeling for why and what is the underlying thought or underlying motivation behind what you are describing.

Q: Is it appropriate for engineers to apply? Or is this opportunity for scientists only?

A: We don't check if you are a scientist or an engineer so if you have a science question that is what matters, if you are an engineer and want to join missions there are other ways to join mission teams. If you are an engineer and have a science question that can address the first question then you should definitely apply.

Q: What would you suggest to the people who did not have any experience with mission design to prepare an application or for a workshop?

A: You can review the contents that's online on the PI Launchpad website. For the application we don't expect you to have experience with Mission design, the workshop is for people who have no idea how to start, they just have this idea for a space mission. For the application we're asking about other skills, leadership qualities and team experiences. You can look at the previous Workshop information and prepare the application but those are separate streams.

Q: You showed survey data on how prepared the previous participants felt after the workshop. Do you have any knowledge of what fraction of the ~80 previous participants actually have followed through with proposals and/or had projects awarded?

A: We don't have long-term data on what has happened to those 80 participants. Anecdotally people sometimes send us emails about their projects but we don't have a complete survey of what has happened to them.

Q: For the NOI What information do we need to provide?

A: You need a PDF that has answers to the five questions. The NOI has some other additional questions which are part of the Inspires infrastructure and we don't look at any of the answers that you write. There's a section for the title, we don't care what it is, it can be your name, or the mission concept, The only thing that really matters is the PDF that you include that has the answers to the five questions

Q: To clarify, do our examples have to deal with science-related experiences, or can they be from any type of experience?

A: They can be from any type of experience. There was one application the first year that was very powerful. The applicant wrote about a movement focused program that they were in and they talked about the team dynamics within that program and it was very compelling. I think the science related ones are good and people can identify with them but there is no requirement that the teams/leadership examples be science experience. We are aware that specially if you are starting out you might not have experience as a leader of a science team so we don't require that. We are looking for experiences on teams of any kind.

Q: Will people with similar science questions be grouped during the workshop?

A: That is still to be determined.

Q: Is there any restriction of designated countries people but working in USA?

A: We need to double check with NASA.

Q: Is there any issue with funding for scientists at other government labs (i.e. naval research lab) due to government limits on funding/travel?

A: We have had NASA civil servants participate and we have figured out the funding internally, if you are not a NASA civil servant we will have to figure a way to make it happen, that will be a special case and will need to review it case by case.

Chat Questions

Q: To be clear this proposal Workshop is focused solely on space flight missions no airborne flights or platforms?

A: The workshop is for self-contained space flight missions. Airborne campaigns have their own culture, their own evaluation processes that are distinct from how we do our announcement of opportunity selected missions. So if you want to do an airborne campaign this is probably not the event for you. There are some things from this event that you will be able to transfer to an airborne campaign. We have been talking to create something similar for those kinds of projects but we have not gotten very far down that road at all yet it just been hey wouldn't it be nice right now.

Q: Do we need to include Launch windows?

A: Not necessarily only if it provides an answer to the timeliness question. So if your mission concept is you want to send something to the outer solar system to Neptune and so you know it should happen in the early 2030s, that is a that's a powerful motivator for why it is has to happen soon but for other divisions like astrophysics there are very few launch window requirements and we aren't expecting them.

Q: There are a lot of questions on leadership and psychology (ex: power dynamics, conflict resolution etc.) I suspect a lot of us may intuitively have an approach to deal with these topics but not in a formal sense and many of us may not be familiar with the professional jargon used where can we go to to come up with a learning curve on how to pitch these topics?

A: Great questions, but we don't have resources at the moment. The people evaluating the applications are other scientists so they don't have familiarity with the professional jargon. In general if you write your answer in a way that sounds like you're speaking or that it's authentic to you, it will probably come across better. If you have a particular question on a question or subquestion send us an email and we can look up potentially some resources. In general I think the important thing is to spend a little bit of time thinking about your intuitive approach to dealing with the situation. How can you put that into words to communicate it to another scientist?

Q: Are postdocs eligible to apply?

A: Yes. Definitely in the first session we even had a few grad students. Anyone can be a PI.

Q: Can the initial Mission concept idea be changed after selection and should it be a complete mission idea or can it be a complementary to an existing mission?

A: It should be a complete mission idea. It should be a stand alone thing, a CubeSat mission is a stand alone mission. But it shouldn't be something like to add an instrument to a European Mission concept, it should be like its own mission concept. We don't have explicit rules against changing the mission concept but we would prefer if you would apply with the question you want to work on, We don't check whether we have X number of planetary missions, but if you change your mission idea it may not fit the the requirements so then it might not be compliant after the fact.

Q: Applicants must have previously submitted a research, technology or observing proposal to any municipal, state, or federal, or private research foundation. Does the prior proposal need to be on the same science question as this application

A: Absolutely not, we just want evidence that you've written proposals of any type in the past. If you have a graduate degree you have probably written a research statement and a couple of other proposals and so we are just looking to see that you have some familiarity with the proposal process but we don't expect it to be the same question and we have no way to check that.

Q: I will understand the science however I plan on having a project scientist who will be the science lead. Is this acceptable?

A: Yes, absolutely. The exact way that you structure your project is, of course, totally up to you. You as the PI need to be the public face of your science so you have to have you know and have enough of an understanding to explain during the workshop sessions, including during the networking and the storytelling sessions which rely on you explaining the concept to other people. You need to feel comfortable explaining the concept to others but whatever happens lower down in the org chart is of course up to you. You will work on the mission concept during the week so come prepare to think and work on that.

Q: Would you give a timeline that someone should apply soonish or in the next five years? Or is this prep for my long term career?

A: People may attend and then realize that they don't want to be a PI. This is not the thing for them and they may never propose anything and that's a totally acceptable outcome. The mission concept that you list and that you work with, you may discover that it's not possible at all and you never propose it or you may discover that you need to work on technology and it gets proposed a decade in the future. For the mission concept you should have some idea of why it would be innovative and why it needs space flight investigation. We're not holding you to launch within a certain number of years with the mission concept

Q: Is this just a workshop to know about Mission design or the submitted idea will not be shortlisted for future selecting?

A: The mission idea will not be shortlisted for anything there is no requirement to do this program to then later submit an AO and there is no preference for people that have been in this program for future mission selection. This has NO impact on future mission selections. This

workshop is just for teaching people of mission design, it does not give you any type of preference later on. Maybe you learn skills or have connections that you develop at the workshop that can make your mission concept better, but that is up to you.