

**Supporting Statement for the
Paperwork Reduction Act Submission
Survey Instruments (Attachment 3a)**

**National Institutes of Health
An Outcome Evaluation of the NIH Director's
Pioneer Award (NDPA) Program**

Interview Protocol

Last Name, First Name:

Title:

Date:

STPI staff:

STATEMENT OF INFORMED CONSENT

The Science and Technology Policy Institute (STPI), a federally funded research and development center based in Washington, DC, has been requested by the National Institutes of Health (NIH) to evaluate the outcomes of the NIH Director's Pioneer Award (NDPA) program. The primary objectives of the evaluation are to: (1) assess whether the awardees are doing pioneering research and (2) determine the spillover effects of the NDPA program.

We are employing various data collection techniques to answer these questions; however, we believe that information from those who have received the award is essential. These interviews are one mechanism that will provide important information concerning the overall outcomes of the NDPA program, and will hopefully highlight common markers of pioneers that can contribute to our understanding of high-risk, high-impact research. We anticipate conducting approximately XX such interviews.

Please note that:

- **Your participation is entirely voluntary:** You are under no obligation to interview with us, but we strongly encourage you to do so. A successful evaluation of the NDPA awards outcomes depends on a high response rate to gather as much information and as many perspectives as possible. There are no consequences or risks for participating. Refusal to participate will involve no penalty or loss of benefits to which you are otherwise entitled, and you may discontinue the interview at any time without penalty or loss of benefits to which you are otherwise entitled.
- **Whom to contact for additional information:** For additional information about the study you may contact Bhavya Lal, STPI project director XX. If you have any questions that you would like to address to the NIH Office of the Director (OD), please contact G. Stephane Philogene, Ph.D., the OD Program Officer responsible for this evaluation (e-mail: PhilogeS@OD.NIH.GOV).

Public reporting burden for this collection of information is estimated to average 45 minutes per interview. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to: NIH Project Clearance Officer, 6705 Rockledge Drive, MSC 7974, Bethesda, MD 20892-7974, ATTN: PRA 0925-0534.

Revised Interview Protocol for Pioneers

Background and Introductory Questions

1. Please briefly describe your NDPA project. How does it differ from what you were doing before receiving the NDPA? In what ways was your proposed research *pioneering*?
[PRE-FILL WITH INFORMATION FROM APPLICATION – GIVE DESCRIPTION AND ASK WHETHER IT IS ACCURATE, TO EXPLAIN IN WHAT WAYS IS IT PIONEERING]
[GIVE THEM COLWELL TYPOLOGY OF RESEARCH APPROACH & HEINZE TYPOLOGY OF RESEARCH OUTPUTS AND ASK TO SELECT WHICH DESCRIBE THEIR RESEARCH]
2. Have you been involved in any other high-risk research programs? Was NDPA your first time performing high-risk research? Do you think there are similar programs that can be compared to the NDPA?
[PRE FILL WHETHER THEY HAVE BEEN INVOLVED – ASK TO CONFIRM]
3. What, if anything, has the NDPA grant allowed you to do that you could not do without it? If you had not received the NDPA, do you believe you would have pursued this work? If so, how?
[IMPORTANT QUESTION – FOLLOW UP IF THEY DO NOT COMPLETELY ANSWER]

Research Activities

Research Progress

1. What is the progress of your NDPA-funded research? To what extent have you been able to achieve your objectives for the project? To what extent, if at all, did you need to modify your research concept or approach since the initial award? If so, why? Were you able to document these variants from the original plan?
[PRE-FILL WITH 2-PAGE SUMMARY OF THEIR WORK BASED ON PROGRESS REPORTS, ASK FOR CHANGES, UPDATES]
2. How did your goals/expectations for your research change over the time of the NDPA award? Why did they change? Have you experienced any obstacles to implementing your proposed work? If yes, ask to elaborate. Was this change captured in your annual progress reports to NIH?
[ASK THEM TO MAP TO SPECIFIC PARTS IN SUMMARY]
3. Is the work “substantially different from [approaches] being pursued in the investigator’s lab or elsewhere”? Are others doing similar work? If so, who?

Research Breakdown & Approach

4. What was your research field before receiving the NDPA? What is the field of your NDPA research? Have you changed your view of your research area since receiving the NDPA?
[PRE-FILL FROM APPLICATION/CV ANALYSIS, ASK TO CONFIRM]
5. Is there a difference in the way that you approach your NDPA funded research vs. your other research? What is this difference? Did that change over the time of the NDPA award (e.g. were you more focused on getting results as the end of the award approached)?

Funding

1. Had your NDPA project previously been supported by other funds? If so, which sources and how much? Besides the NDPA Award, do you have funding from other sources? Which did you receive after being awarded the NDPA? Were these grants related to your NDPA work? Have

you been able to secure funding to continue your NDPA project in the future? If so, from which programs?

[PRE-FILL FROM APPLICATION, IMPAC II, CV, ASK THEM TO CHECK]

2. Is there a clear distinction in your mind between your NDPA-funded research and your other research? (For example, are there projects that are completely separated? Do you pool all your research funds into one pot?) How do the other grants received post-NDPA differ from those received prior to the NDPA?
3. Is the amount of the NDPA funding sufficient to carry out the project? Is it too much?
4. What grants have you *applied for* (as opposed to awarded) since the time you were awarded the NDPA? Were these grants related to your NDPA work? How do these grants differ from those you received prior to NDPA?

[PRE-FILL IF AVAILABLE]

Research Outputs

5. Have you published or are you in the process of publishing any work supported by the NDPA? How do these publications compare (e.g. expected impact factor, type of journal) to your previous or current traditional research publications? If not, when do you expect to publish?
[PRE-FILL FROM PROGRESS REPORTS, ASK THEM TO CONFIRM WHETHER THEY ARE FOR NDPA WORK]
6. Is your rate of publications (or other outputs) on your NDPA research different than for your traditional research? Has the rate of publications for non-NDPA work changed as a result of the NDPA?
7. Have you presented the NDPA work at professional meetings or other public events? Do these meetings and public events differ than those you attended prior to your receiving the NDPA?
[PRE-FILL FROM PROGRESS REPORTS/CV ANALYSIS/WEBSEARCH]
8. Have you filed any patents or had any interactions with the commercial sector due to your NDPA work? Do you expect any in the future? If so, when?
[PRE-FILL FROM PROGRESS REPORTS/CV ANALYSIS/WEBSEARCH]
9. How many students and post-docs have worked on the NDPA-funded project compared to other projects? What are their disciplines? Have you experienced difficulties in attracting graduate students or post-docs to work on your NDPA project due to their high-risk nature? Or are students more excited about the work? How is the training different for students working on non-NDPA work? Are these students also conducting (or being trained to conduct) pioneering research? Has this changed from prior to receiving the NDPA?
10. Have any outputs other than papers (or presentations) been produced? What are these outputs (e.g. work featured in high-school text books, software, methods, technology)? If no other outputs have been produced, do you expect any to in the future? If so, when?
11. What is the average (expected) time of success for the awardees' projects? What does this 'success' look like (e.g. publications, presentation, other)?
12. Can you suggest several scientists who would be able to evaluate your work?

Spillover Effects

On the Awardees

13. How has your career changed since receiving the NDPA? Are you still at the same institution? If you were a junior professor at the time of receiving the award, have you since received tenure? Has your lab expanded? To what degree are these changes due to the NDPA grant?

[PRE-FILL SOME INFO FROM CV]

14. Do you think the way you approach research has changed as a result of receiving the NDPA? Do you engage in more high-risk research?
15. Have you won any awards (monetary or non-monetary, research specific or non-research specific, grants versus personal award for accomplishments) since receiving the NDPA? If so, which ones? How does this compare to awards received before the NDPA?
[PRE-FILL FROM CV]
16. Has your NDPA work resulted in any exposure in the popular press or media? If yes, please elaborate.
[PRE-FILL FROM WEB SEARCHES]
17. Do you think your reputation, recognition, or stature has changed as a result of receiving the NDPA? If yes, ask to elaborate. Local, national, or global? Scientific community or non-scientific community? How did the change manifest itself?
18. Can you suggest several scientists who may be able to better answer these questions?

On the Labs (Students and Postdocs) and Universities

19. Do you think your lab culture changed as a result of your involvement in NDPA? If so, how? Can you give a specific example?
20. What is the breakdown of your lab personnel (# of graduate students, undergrads, post-docs) working on the NDPA project? Do you think the graduate students and post-docs who worked on the NDPA project are more likely to undertake high-risk research in the future? What scientific fields are NDPA-funded students and post-docs going into?

On Science

1. Do you know of other scientists who are using the results (techniques, approaches, findings) from your NDPA work? Have other scientists given you comments or any other feedback on your project? Have you collaborated with other scientists on this NDPA work? In what fields are these collaborators?
[PRE-FILL FROM CV, ASK TO CONFIRM]
2. Prior to receiving the NDPA, did you collaborate with other scientists? In what fields were these collaborators? How has this changed since receiving the NDPA?
[PRE-FILL FROM CV, ASK TO CONFIRM]
3. Pioneering researchers often have detractors. Who are your critics? What problems do they have with your work?
4. In your view, how has the NDPA-funded work made contribution to your research field? If it hasn't yet, do you expect it to in the future? When? If yes, ask to elaborate and ask for specific examples.
5. In your view, has the NDPA-funded work made any contribution to another research field? If it hasn't yet, do you expect it to in the future? When? If yes, ask to elaborate and ask for specific examples.
6. Are your research results applicable to the diagnosis and treatment of disease? If not, do you expect them to be applicable in the future? What is the predicted timeline to see them becoming applicable?

On NIH

7. Based on your experiences with NIH, do you think that the culture at NIH has changed as a result of NDPA?

General Thoughts and Future

8. Have there been any other outcomes of the NDPA project not covered by the earlier questions?
9. Any other feedback on the NDPA program or your experience as a Pioneer?

Definitions and Metrics

1. Do you have individual definitions for the terms “pioneering”, “transformative”, “innovative”, and “creative”? How are these terms related? Do you think these terms can be measured?
2. How is “successful” pioneering research defined by you? Is success defined differently for pioneering research vs. traditional research?
3. How do you define “high-risk research”, based on your experience? How often do “high risk” projects succeed?
4. How do you define and react to failure? What is the difference between “good” failures and “bad” failures?

Appendix: Typology of Research Approach & Outcomes

Please indicate which of the following statements (if any) are true of your NDPA Approach:

{Choose all that apply}

- One or more of the fundamental ideas underlying my proposed research were at odds with prevailing wisdom
- My proposed research required use of equipment or techniques that have not been proven or are extraordinarily difficult
- My proposed research required knowledge of fields beyond my previously demonstrated area of expertise
- My research involved a unique and unprecedented combination of perspectives, disciplines, or approaches
- None of these statements is true of my proposed research

Please indicate which of the following potential outcomes of scientific research apply to your NDPA work¹:

{Choose all that apply}

- My proposed research could result in the formulation of a novel idea (or set of ideas) that could instigate a new cognitive frame or advance theories to a new level of sophistication.
- My proposed research could result in the discovery of new empirical phenomena that could stimulate the generation of new theories.
- My proposed research could result in the development of a new methodology, enabling empirical testing of theoretical problems.
- My proposed research could result in the invention of novel instruments that could instigate new search perspectives and research domains.
- My proposed research could result in new integration of formerly disparate ideas into general theoretical laws enabling analyses of diverse phenomena within a common cognitive frame.
- None of these statements is a potential result of my proposed research.

¹ T. Heinze et al., “Identifying creative research accomplishments: Methodology and results for nanotechnology and human genetics.” *Scientometrics*, Vol. 70, No. 1 (2007) 125–152