

Frequently Asked Questions (FAQs)

White Papers

1. Question: What is the difference between topical and research campaign white papers?

Answer: As noted in the [Call for White Papers](#):

- Topical white papers should focus on a single research area, scientific investigation or experiment. There is no specific minimum cost or maximum duration.
- Research campaign white papers should address broad or large-scale goals and may span multiple topics or disciplines, multiple missions, or multiple platforms, as long as they logically aggregate into a single, defined mission concept. Such proposed campaigns may have total project cost of \$100M or more, may include a dedicated spaceflight, and will have a maximum duration of 10 years.

2. Question: Are the authors of white papers eligible to serve on the committee or one of the panels?

Answer: The steering committee has already been appointed. The National Academies' conflict of interest requirements generally preclude the principal (i.e., submitting) author of a white paper from serving on a related panel.

3. Question: How do we include co-authors in the five pages of the white paper?

Answer: The white paper specifications call for the inclusion of a cover page (*beyond the 5-page limit*) containing the title of the white paper, the principal author's name, phone number, institution, and email address, and a list of coauthors with their respective institutions.

4. Question: How should supporters or endorsers of a white paper be acknowledged?

Answer: If a white paper has associated individuals who are not the principal author or coauthors they can be acknowledged via a hyperlink (noted on the cover page) to another document. See question 5 for additional information.

5. Question: Are different weights given by the committee to white papers based upon the number of coauthors versus contributors, senior versus junior contributors, number of endorsers, U.S. versus foreign coauthors, etc.?

Answer: No. White papers will be assessed on the merit of their content, not on who is listed on the cover page or how many other similar white papers are received. To streamline the review process, having a single white paper with multiple authors is preferable to having many similar white papers with a single author. In addition, the number or names of endorsers has no impact on a white paper's importance to the committee. All white papers will be read and evaluated, and their use is solely based upon content.

6. Question: Do illustrations and other graphics count against with 5-page limit?

Answer: Yes. Any graphics included in the 5 pages should be sufficiently large to illustrate clearly the point being made. However, as noted in the white paper specifications, hyperlinks can be used to access higher-resolution graphics.

7. Question: Do references count against the 5-page limit?

Answer: No, however, please remember that the required cited reference list must contain hyperlinked DOI (digital object identifier) within the document.

8. Question: If I submit a white paper will I be acknowledged and/or published in the decadal survey report?

Answer: No. White papers will not be included in the survey report. However, the white papers will be part of the public record and available online during the study and for some time after the study.

9. Question: I am concerned about providing contact information in the white paper since the white papers will be publicly posted. Contact information is already collected as part of the white paper submission process. Do I need to put contact information in the white paper?

Answer: You may choose not to include your contact information in the white paper, as long as you provide it in the submission process. Only the information in the white paper will be publicly posted.

10. Question: Can white papers include ITAR information?

Answer: No. Your white paper submission will be posted publicly and may not include ITAR restricted data or other sensitive materials.

11. Question: Does every coauthor need to login via the portal and sign or endorse the submission, or does the principal author just provide a list of the coauthors?

Answer: Only the principal author should log into the submission site and submit the paper.

12. Question: What topics would be appropriate for a white paper and/or mission concept?

Answer: The [Call for White Papers](#) and its linked forms provide guidance on appropriate topics. As stated therein:

The white papers should deal with one discipline or many disciplines associated with BPS. White papers should identify research areas, concepts, methods, tools, techniques, and new ideas that could advance knowledge in at least one of the following areas, though all relevant input is welcome:

- The effects of the spaceflight environment on biological and biophysical systems and processes. Relevant areas of knowledge may range from molecular biology to evolution. Environmental factors may range from altered gravity and radiation in deep space to dust exposure on planetary surfaces.
- The effects of the spaceflight environment, including gravitational effects, on physical systems and processes. Examples of relevant areas include materials, combustion, fluid behavior, and fundamental physics.
- Gravitational and other space environment effects on physical and biological processes involved in the functioning of space exploration technologies. White papers should include fundamental concepts that address BPS in space, and should take advantage of any science platform that enables the science.

If a topic does not fit clearly into one of the categories above, authors may still submit a paper, but should offer an explanation of why they believe their paper should be considered in this survey. Authors should also consider whether their topics already fall within other areas of NASA's Science Mission Directorate, and submit their papers accordingly. Sites describing other National Academies decadal surveys include:

- [Decadal Survey for Earth Science and Applications from Space](#)
- [Planetary Science and Astrobiology Decadal Survey](#)
- [Decadal Survey on Astronomy and Astrophysics 2020](#)

13. Question: The call for white papers appears to emphasize research that examines the effects of the spaceflight environment on biological and physical systems. Is the call equally open to research concepts that use the space environment to perform experiments that would not be possible on Earth?

Answer: The decadal survey will consider opportunities for research that utilize aspects of the space environment on broadly defined biological and physical systems, including research in fundamental physics that can employ the space environment to uniquely advance science.

14. Question: “Fundamental physics” is a term sometimes used in astrophysics to describe research on the unknown aspects of matter, energy, and spacetime that represent open questions in our description of the Universe. What is the boundary between “fundamental physics” in the NASA Astrophysics program, and “fundamental physics” in the Biological and Physical Sciences program?

Answer: Fundamental physics in NASA's BPS program is focused on experimental research in physics made possible by the space environment that does not involve or expect observations in astronomy and astrophysics.

15. Question: How should mission concepts submit detailed information to the committee? A five-page white paper doesn't allow for information necessary for a technical evaluation.

Answer: The white papers are intended as synopses of projects and activities that are sufficient to allow the committee and panels to understand a) the scope of the project, b) the level of existing information, and c) what additional inputs will be required to fully evaluate the project or activity.

16. Question: What do I do if the subject of my white paper does not fit neatly into one of the categories defined on the submission website?

Answer: Make use of the write-in options on the submission websites for the [topical](#) and [research campaign](#) white papers

17. Question: What is the definition of transformative research?

Answer: The decadal survey is generally following the widely used [NSF definition of transformative research](#), which reads “Transformative research involves ideas, discoveries, or tools that radically change our understanding of an important existing scientific or engineering concept or educational practice or leads to the creation of a new paradigm or field of science, engineering, or education. Such research challenges current understanding or provides pathways to new frontiers.”

18. Question: What assumptions should be made regarding the range of platforms available for research? Will crew-tended space-based research facilities be available after the lifetime of the ISS? Will the decadal survey consider investigations or mission concepts that require development and launch of a dedicated platform or satellite? Will white papers for relevant ground-based studies be considered?

Answer: As noted in the on the [Call for White Papers](#): potential platforms include those that provide zero or partial gravity, are in low Earth orbit, are terrestrial analogs of spaceflight or space conditions, and those that may soon be in deep space or lunar environments. White papers may also include research that could enable experiments and exploration on Mars. However, the decadal survey will not prioritize research platforms for the Mars surface or vehicles in transit to Mars.

NASA has said that they expect that either permanently crewed or periodically crewed research facilities will be available in low Earth orbit beyond the lifetime of the ISS. These facilities may be approximately equivalent to ISS in terms of the types of capabilities but may have less capacity. NASA also expects crew-tended facilities to be available in lunar orbit and on the lunar surface. The timeline for deploying such facilities is uncertain, but white papers on research concepts utilizing these facilities are welcome.

NASA is also considering the development of missions involving dedicated platforms or satellites to execute a focused range of investigations, or a single high-priority investigation. Since dedicated missions represent a significant financial commitment, they should meet a high standard of merit and community support. Other platforms of interest include ground-based drop towers, parabolic flights, sub-orbital flights, balloons, radiation facilities (e.g., the NASA Space Radiation Laboratory). White papers utilizing these facilities are welcome.

19. Question: Can complementary ground-based research be included in a white paper for reduced gravity research?

Answer: Yes.

20. Question: Should current projects that are already part of the program of record submit white papers?

Answer: No. The white papers are only for future projects that are not part of the program of record.

21. Question: Will white papers focusing on new hardware to enable reduced gravity research be considered?

Answer: White papers should focus on topics of scientific inquiry. If that inquiry requires novel new hardware, that should be described in the white paper.

22. Question: How can the importance of microgravity to a topic or research campaign be substantiated in a white paper if it has only been hypothesized in literature?

Answer: White papers should substantiate the need for microgravity but will not be penalized for a lack of experimental data associated with cutting edge theoretical science. In this case, references from peer-reviewed archival journals are appropriate.