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DUAL-ANONYMOUS PEER REVIEW PILOT PROGRAM: GUIDELINES FOR ANONYMOUS PROPOSALS (ASTROPHYSICS GO/GI PROGRAMS)

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NASA's Science Mission Directorate is strongly committed to ensuring that the review of proposals is performed in an equitable and fair manner that reduces the impacts of any unconscious biases. To this end, and motivated by a successful study conducted for the Hubble Space Telescope, SMD is conducting a pilot program in ROSES-2020 to evaluate proposals using dual-anonymous peer review (DAPR). Under this system, not only are proposers unaware of the identity of the members on the review panel, but the reviewers do not have explicit knowledge of the identities of the proposing team during the scientific evaluation of the proposal. This document provides instructions to proposers submitting to the following ROSES elements:

- D.5 Swift Cycle 17 (only Phase-1 proposals will be anonymized)
- D.6 Fermi Cycle 14 (only Phase-1 proposals will be anonymized)
- D.9 NuSTAR Cycle 7 (only Phase-1 proposals will be anonymized)
- D.10 TESS Cycle 4 (only Phase-1 proposals will be anonymized)
- D.11 NICER Cycle 3 (only Phase-1 proposals will be anonymized)

1. Guidelines for Proposers

1.1 Submission of Proposals

As in previous cycles, Phase-1 proposals will continue to be submitted via the Astrophysics Research Knowledgebase (ARK) / Remote Proposal System (RPS) website at the following URL: <https://heasarc.gsfc.nasa.gov/ark/rps/> . Proposers must fill in all required information on the cover pages: any identifying information will be automatically redacted by NASA in the copy provided to reviewers.

1.2 Proposal Abstract

Proposers are required to write the proposal abstract in an anonymized format that does not explicitly identify the names of the team members or their institutions. Some specific points follow:

- Do not claim ownership of past work, e.g., “my previously funded work...” or “Our prior analysis demonstrates that...”
- Do not include the names of the personnel associated with the proposal or their organizational affiliations. This includes but is not limited to, page headers, footers, diagrams, figures, or watermarks. This does not include references to past work, which should be included whenever relevant (see below).
- References must be written in the form of a number in a square bracket, e.g. [1], which will then correspond to the full citation in the reference list.
- When citing references, use third person neutral wording. This especially applies to self-referencing. For example, replace phrases like “as we have shown in our previous work [17], ...” with “as previously shown [17], ...”
- It may be occasionally important to cite exclusive access datasets, non-public software, unpublished data, or findings that have been presented in public before but are not citeable. Each of these may reveal (or strongly imply) the investigators on the proposal. In these instances, proposers must use language such “obtained in private communication” or “from private consultation” when referring to such potentially identifying work.

1.3 Scientific/Technical Management Section

Proposers are required to write the Scientific/Technical/Management (i.e., science justification) section of the proposal in an anonymized format that does not explicitly identify the names of the team members or their institutions. Some specific points follow:

- Do not claim ownership of past work, e.g., “my previously funded work...” or “Our prior analysis demonstrates that...”
- Do not include the names of the personnel associated with the proposal or their organizational affiliations. This includes but is not limited to, page headers, footers, diagrams, figures, or watermarks. This does not include references to past work, which should be included whenever relevant (see below).
- References must be written in the form of a number in a square bracket, e.g. [1], which will then correspond to the full citation in the reference list.
- When citing references, use third person neutral wording. This especially applies to self-referencing. For example, replace phrases like “as we have shown in our previous work [17], ...” with “as previously shown [17], ...”
- Depending on the solicitation, it may be occasionally important to cite exclusive access datasets, non-public software, unpublished data, or findings that have been presented in public before but are not citeable. Each of these may reveal (or strongly imply) the investigators on the proposal. In these instances, proposers must use language such “obtained in private communication” or “from private consultation” when referring to such potentially identifying work.

As always, the reviewers expect proposers to make an effort to describe the past work in the field, and how the proposed work would improve, build-upon, complement, contradict, or complete that past work. As long as the above guidelines are followed, proposers should be able to successfully accomplish this objective.

1.4 Separate “Expertise and Resources - Not Anonymized” Document

Proposers will also be required to upload a separate “Expertise and Resources - Not Anonymized” document, which is not anonymized. This document shall be no more than three pages in length. The document will contain the following elements:

- i. A list of all team members, together with their roles (e.g., PI, Co-I, collaborator).
- ii. Brief descriptions of the scientific and technical expertise each team member brings.
- iii. The contribution that each team member will make to the proposed investigation.
- iv. Specific resources (e.g., access to a laboratory or observatory) that are required to perform the proposed investigation.

This document will be distributed to the review panel for a subset of proposals (typically the top third, according to the distribution of assigned grades and the projected selection rates). This is to allow the reviewers to assess the qualifications, capabilities, and related expertise of the team and the facilities, instruments, equipment and other resources or support systems required to execute the proposed investigation.

An example follows:

List of investigators:

Mrs. Sandra Cauffman (PI)
Dr. Nicky Fox (Co-I)
Dr. Lori Glaze (Co-I)
Dr. Paul Hertz (collaborator)

Team expertise:

Mrs. Sandra Cauffman has over 25 years of experience in the project management of space-based science missions. She will coordinate the project and be responsible for obtaining the samples. Dr. Nicky Fox is an expert in telematics and satellite communications, and previously served as the Project Scientist for NASA’s Parker Solar Probe. Dr. Fox will integrate the laboratory data with the supercomputer-derived models. Dr. Lori Glaze brings expertise in the conceptualization and development of planetary instrumentation. Dr. Glaze will refine the machine learning algorithm that is necessary to complete the proposed work. Dr. Paul Hertz is an expert in X-ray emission from neutron

stars, black holes, and globular clusters. Through his institutional affiliation, Dr. Hertz has access to the synchrotron beamline necessary to complete the proposed work.

1.5 Summary of Requirements for Anonymized Proposals

Item	Requirement
Anonymization	Phase-1 proposals are anonymized. Phase-2 (cost) proposals are not anonymized.
Submission	Phase-1 proposals are submitted through ARK/RPS. Phase-2 (cost) proposals are submitted through NSPIRES.
References	References should be in the [1], [2] format.
Proposal length	No change.
Separate, no more than 3-page “Expertise and Resources - Not Anonymized” document	This document provides a list of all team members, their roles, expertise, and contributions to the work. The document should also discuss any specific resources that are key to completing the proposed work.

2. Example Text for Anonymized Proposals

Much of the following text has been reproduced, with permission, from the Hubble Space Telescope dual-anonymous peer review website.

Here is an example of text from a sample proposal:

Over the last five years, we have used infrared photometry from 2MASS to compile a census of nearby ultracool M and L dwarfs (Cruz et al, 2003; 2006). We have identified 87 L dwarfs in 80 systems with nominal distances less than 20 parsecs from the Sun. This is the first true L dwarf census – a large-scale, volume-limited sample. Most distances are based on spectroscopic parallaxes, accurate to 20%, which is adequate for present purposes. Fifty systems already have high-resolution imaging, including our Cycle 9 and 13 snapshot programs, #8581 and #10143; nine are in binary or multiple systems, including six new discoveries. We propose to target the remaining sources via the current proposal.

Here is the same text, re-worked following the anonymizing guidelines:

Over the last five years, 2MASS infrared photometry has been used to compile a census of nearby ultracool M and L dwarfs [6,7]. 87 L dwarfs in 80 systems have been identified with nominal distances less than 20 parsecs from the Sun. This is the first true L dwarf census – a large-scale, volume-limited sample. Most distances are based on spectroscopic

parallaxes, accurate to 20%, which is adequate for present purposes. Fifty systems already have high-resolution imaging, including the Cycle 9 and 13 snapshot programs, #8581 and #10143; nine are in binary or multiple systems, including six new discoveries. We propose to target the remaining sources via the current proposal.

Here is another example of text from a sample proposal:

In Rogers et al. (2014), we concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If our model from Rogers et al. (2014) is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with our first epoch obtained in 2007 to measure the proper motion of the shock wave.

Here is the same text, again re-worked following the anonymizing guidelines:

Prior work [12] concluded that the best explanation for the dynamics of the shockwave and the spectra from both the forward-shocked ISM and the reverse-shocked ejecta is that a Type Ia supernova exploded into a preexisting wind-blown cavity. This object is the only known example of such a phenomenon, and it thus provides a unique opportunity to illuminate the nature of Type Ia supernovae and the progenitors. If the model from [12] is correct, then the single-degenerate channel for SNe Ia production must exist. We propose here for a second epoch of observations which we will compare with a first epoch obtained in 2007 to measure the proper motion of the shock wave.

Another common situation that occurs in proposals is when a team member has institutional access to unique facilities (e.g., access to a laboratory, observatory, specific instrumentation, or specific samples or sites) that are required to accomplish the proposed work. An anonymized proposal does not prohibit stating this fact in the Scientific/Technical/Management section of the proposal; however, the proposal must be written in a way that does not identify the team member. Here is an example:

The team has access to telescope time to the JPL Ice Lab, which will enable us to examine the properties of methane rain in similar conditions to those found on Titan.

Note: in this situation, NASA strongly recommends that the team provide detailed supporting information to validate the claim in the “Expertise and Resources - Not Anonymized” document, which is not anonymized.

3. Return without Review for Unanonymized Proposals

NASA understands that dual-anonymous peer review represents a major shift in the evaluation of proposals, and as such there may be occasional slips in writing anonymized proposals. However, NASA reserves the right to return without review proposals that are particularly egregious in terms of the identification of the proposing team.

NASA further acknowledges that some proposed work may be so specialized that, despite attempts to anonymize the proposal, the identities of the Principal Investigator and team members are readily discernable. As long as the guidelines are followed, NASA will not return these proposals without review.

4. Evaluation of Proposals in Dual-Anonymous Peer Review

The overarching objective of dual-anonymous peer review is to reduce unconscious bias in the evaluation of the merit of a proposal. In order to ensure this goal, the review panels will be instructed to evaluate proposals based on their merit without taking into account the proposing team qualifications. Here are some specific points.

- i. Consider proposals solely on the merit of what is proposed.
- ii. Do not spend any time attempting to identify the PI or the team. This applies even if you think you know the identities of the team members. Remember to discuss the science and not the people.
- iii. In the panel discussions, do not make guesses on identities, insinuate the likely identities, or instigate discussion on a possible team's past work.
- iv. When writing evaluations, use neutral pronouns (e.g., "what they propose", or "the team has previously evaluated similar data").

In addition, NASA will appoint a "Leveler" to be present in the panel room for all discussions. The Leveler is not a reviewer or a panelist, but is an individual trained to ensure that the panel deliberations focus on the strengths and weaknesses of the proposal and do not deviate into a discussion of the identity, qualifications and experience of the PI and team. NASA will provide full and comprehensive instructions to all reviewers, Panel Chairs, and Levelers ahead of the review.

As a final check, and only after the scientific evaluation is finalized for all proposals, the "Expertise and Resources – Not Anonymized" document is distributed to the panel for a subset of proposals (typically the top third, according to the distribution of assigned grades and the projected selection rates). The panel will assess the qualifications, capabilities, and related expertise of the of the team and the facilities, instruments, equipment and other resources or support systems required to execute the proposed investigation. If there are clear, compelling deficiencies in the expertise required to see through the goals of the proposal, the panel may note this. This review may not be used to "upgrade" proposals for having particularly strong team qualifications, nor may it be used to re-evaluate proposals.

Furthermore, for those proposals that have an accompanying request for NASA's High End Computing resources or a letter of support from a specific facility, these documents will be released to reviewers at the same time.

This document was last updated on February 14, 2020. Comments and questions on this document may be directed to daniel.a.evans@nasa.gov and SARA@nasa.gov.