National Aeronautics and Space Administration

NASA

2024 NASA SCIENCE

IDEA

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Agenda

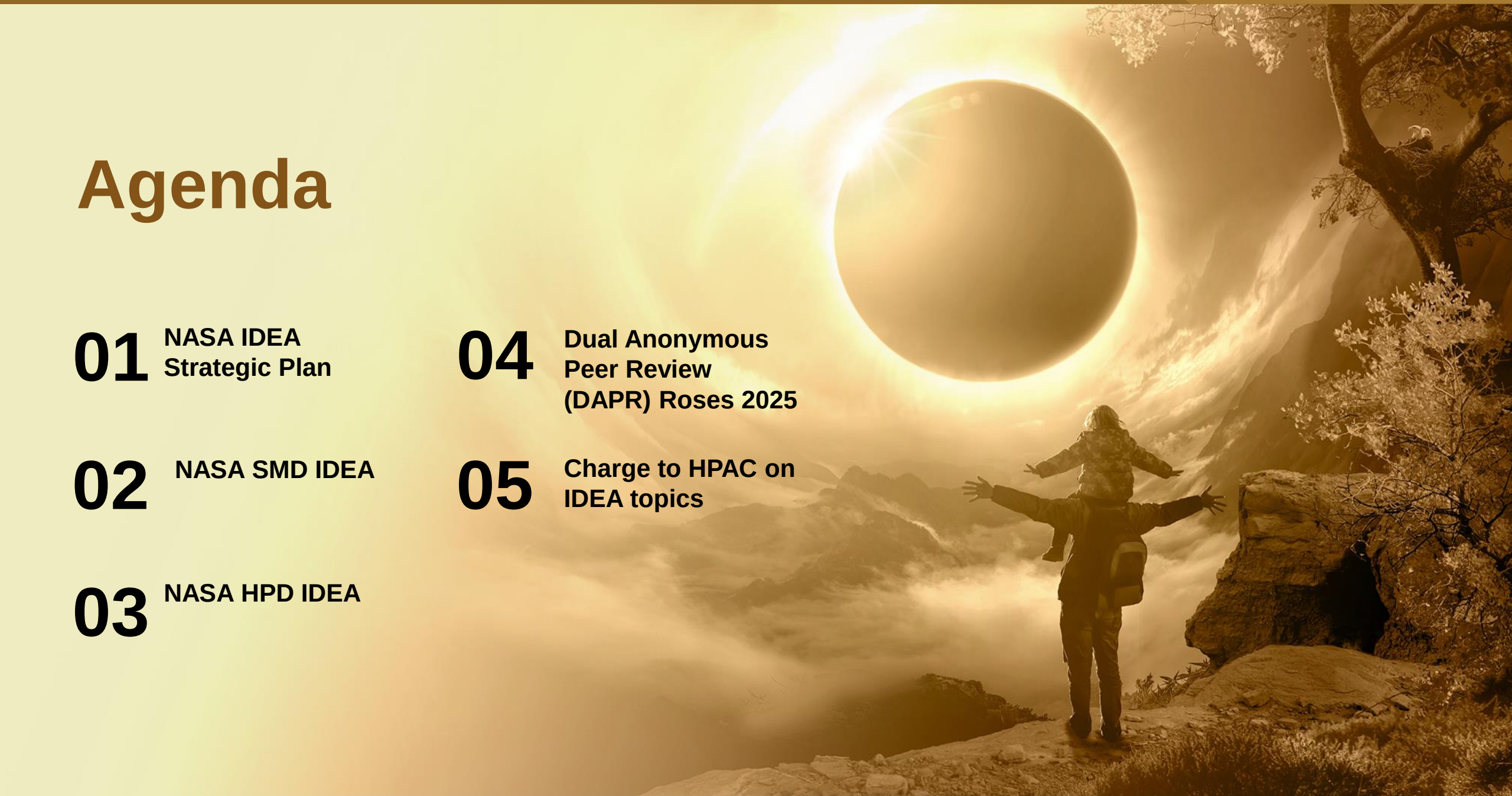
01 NASA IDEA Strategic Plan

02 NASA SMD IDEA

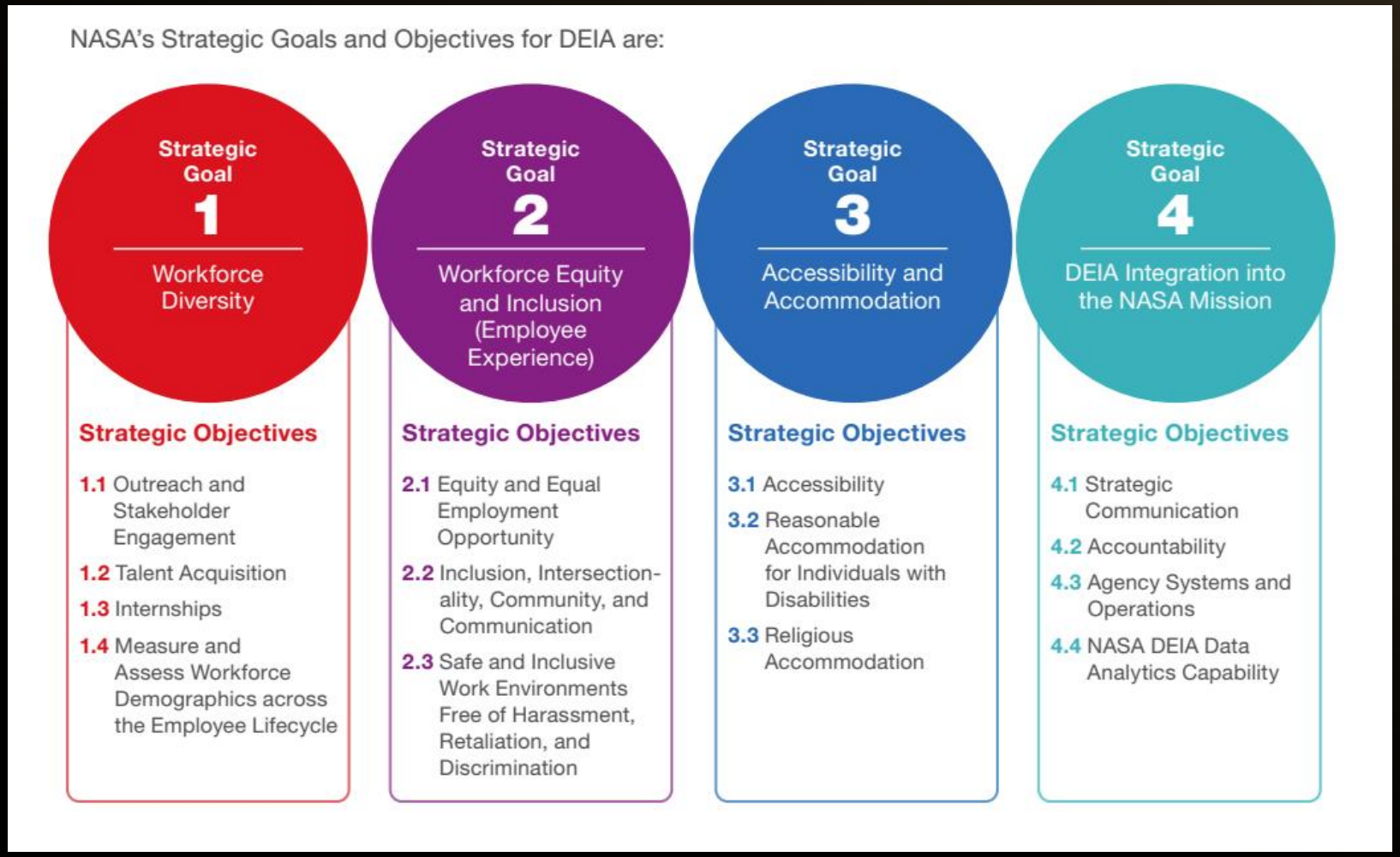
03 NASA HPD IDEA

04 Dual Anonymous Peer Review (DAPR) Roses 2025

05 Charge to HPAC on IDEA topics



NASA IDEA Strategic Goals and Objectives



NASA Science Mission Directorate IDEA

Three SMD IDEA subgroups to address these four priorities

- 2 internally focused
- 1 externally focused

The sub groups are:

1. Inclusive culture & accessibility
2. Inclusive career development
3. Diverse and Inclusive Science Teams (external focus)

NASA HPD IDEA

HPD participates in the SMD IDEA working groups and priorities will match those of SMD and the Agency overall.

Funded Ongoing and Exploratory Efforts

- Sponsoring and incentivizing enhanced and innovative outreach activities with IDEA as a major focus
  - **PUNCH**, **IMAP, GLIDE, EZIE, Newly selected DRIVE Centers**

- Mentoring 365: Established a community-wide early- and mid-career support network pilot in partnership with other SMD Divisions, professional and scientific societies with a focus on providing mentors and mentees training and resources that consider the “whole” STEM individual

- NASA HEAT mission is to increase heliophysics literacy and deepen public understanding about NASA Science by uniting existing NASA SMD assets with educators, learners of all ages, and communities across the country
  - Examples: Developing a culturally responsive curriculum, creating resources in Spanish, engaging urban and rural communities

Additional Heliophysics Activities

- Employing best practices for IDEA recruitment efforts, including hiring panels, reviewer panels and advisory boards
- Adopted inclusive R&A practices (e.g., code of conduct, dual-anonymous reviews)
- Coordinating with SciAct to expand engagement opportunities
- Actively soliciting community input at all meetings: AGU, GEM, CEDAR, SHINE, etc.

Supporting Inclusion in ROSES

- Dual Anonymous Peer Review (DAPR) Expansion
- Bridge Program
- Continue Flexible Due Date Pilots
- Expansion of Inclusion Plans
- Virtual Reviews
- Expand Support for MSIs/PUIs
- Transform to Open Science (TOPS) Program
- Commercial Suborbital

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IDEA & Review Best Practices

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What are the goals of a peer review?

To fairly, independently, and impartially evaluate the science and technical merit of a set of research proposals as well as their relevance to the program and their cost reasonableness.

Human nature — cognitive biases — impede the ability of a group to achieve this goal.

- Time pressure activates a number of cognitive biases
- High-level, undifferentiated criteria prevent repeatable and reliable evaluations
- Group pressures can limit the range of discussions of proposals
- Cognitive biases short-circuit logical thought, replacing hard reasoning with low energetic-cost associations

So what to do?

Reduce time pressure by limiting the number of proposals to be evaluated by each panel (sub-panel, group).

Increase reliability of evaluation by splitting high-level criteria, for example “Scientific/Technical Merit,” into a series of specific questions, for example:

- Are the stated scientific goals compelling?
- How much will the proposed research program advance the field if successfully executed?
- Can the proposed research program achieve the stated goals on the proposed schedule?
- Does the proposal acknowledge potential pitfalls and propose alternatives?
- Does the team have the necessary expertise?

Also increase reliability by reducing number of evaluation levels — so use E, VG, G, F, and P and not allow use of “half-grades” like E/VG in voting.

Try to mitigate group dynamics:

- Seek panelist comments in reverse seniority order
- Mitigate negativity bias by having panelist all first discuss the strengths of a proposal before discussing weaknesses

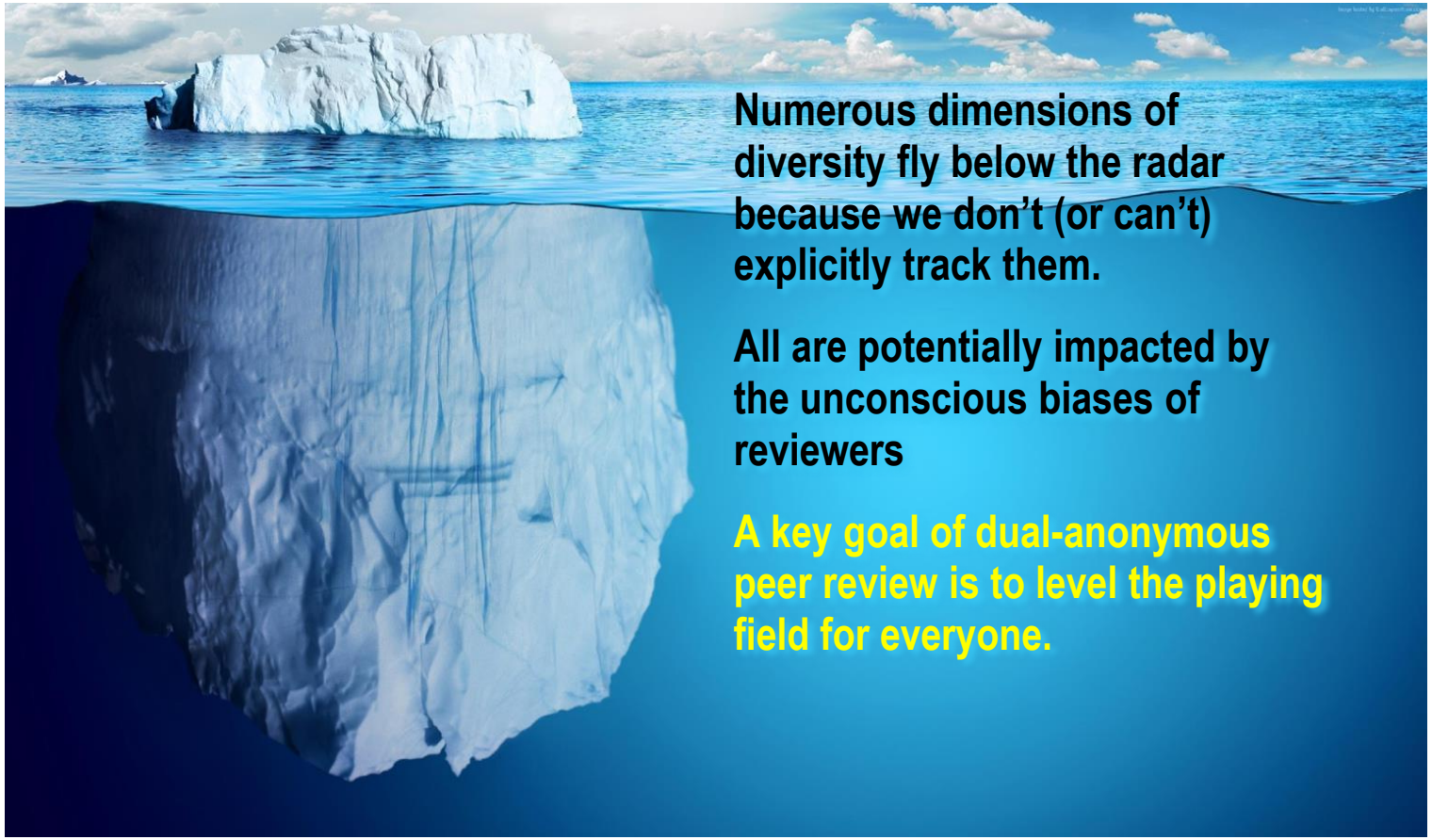
Use DAPR to focus evaluation on the science proposed. Only after all proposals have had their scientific and technical merit reviewed discuss the qualifications of the team and their institutions.

Dual Anonymous Peer Review
DEIA Implications

- Expectations or stereotypes that influence our judgements of others (regardless of our own group).

- Unconscious bias is
  - NOT discrimination
  - NOT prejudice

- Mitigation through
  - Awareness
  - Policies
  - Practices (DAPR)
  - Accountability



Expertise and Resources (E&R) DEIA Implications

- **Proposers submit additional non-anonymized appendix. Competitive proposals undergo "E&R reveal phase".**
- **Assessment of E&R does not change score or impact the scientific evaluation.**
- **Assessment determines whether the availability of expertise and resources are as promised in the proposal text.**
- **Pre-DAPR: HPD best practice was to have panels provide comments about expertise or qualifications of proposing team in "Notes to NASA".**

Charge to the HPAC on IDEA topics

HPD requests the following topics around IDEA to be discussed by the HPAC in order to advise HPD.

Ask: Please bring suggestions on successfully implemented IDEA efforts in the community to NASA HPD so that they can be evaluated for future exploration or potential implementation.

Background: HPD would like to know what are some best practices or programs that perhaps should be emulated in order to provide more support for an inclusive community. Programs such as bystander training, the DRIVE Centers, Mentoring 365 by AGU and the American Physical Society IDEA network are some suggestions on programs to offer feedback.