

## REQUEST FOR A 4-PAGE PRE-PROPOSAL

### EPSCoR Cooperative Agreement Notice (CAN)

**International Space Station (ISS) Flight Opportunity Announcement Number: NNH23ZHA010C**

**Due to NM NASA EPSCoR by COB Monday, February 6, 2023**

New Mexico is eligible to submit one proposal under the NASA Established Program to Stimulate Competitive Research (EPSCoR) Research Announcement, International Space Station (ISS) Flight Opportunity.

Please send your 4-page pre-proposal to Cristina Esquivel at [cmesquiv@nmsu.edu](mailto:cmesquiv@nmsu.edu). Your pre-proposals should be prepared with the intention of submitting a full proposal. **Your pre-proposal is due by 5:00 p.m. Monday, February 6, 2023. This is a hard deadline; no extensions will be provided.** Please note that the final proposal will be due to NSPIRES by March 29, 2023.

You can access the NASA Established Program to Stimulate Competitive Research (EPSCoR), International Space Station (ISS) Flight Opportunity Announcement by clicking this link:

<https://nspires.nasaprs.com/external/viewrepositorydocument/cmdocumentid=912801/solicitationId=%7BBFD39ACA-4865-DF2C-659A-850888F5DF8D%7D/viewSolicitationDocument=1/FY23%20ISS%20NOFO%20Final.pdf>

Utilization of the ISS will further strengthen the relationships between NASA and the EPSCoR jurisdictions in the pursuit of national priorities for the advancement of science. This utilization of the ISS will also open new paths for the jurisdictions to compete for and win much larger spaceflight research projects. Through this solicitation, the ISS will provide the integration and flight opportunity. There are a variety of laboratory facilities and capabilities designed to support a range of scientific disciplines on the ISS.

A general overview of the research facilities and capabilities can be found at:

[https://www.nasa.gov/mission\\_pages/station/overview/index.html](https://www.nasa.gov/mission_pages/station/overview/index.html)

For additional information, see:

[https://www.nasa.gov/mission\\_pages/station/research/research\\_information.html](https://www.nasa.gov/mission_pages/station/research/research_information.html)

Pre-Proposal elements should include (4 pages)

*Cover page not contained in page count*

- Research title
- Project Description/Intrinsic merit – 1 page
- Approach to flight and ground safety review process – 1 page
- Identify a Safety Representative (**Page 13 of CAN solicitation**)
- Budget justification/narrative – ½ page.
- Budget – 1 page
  - A budget template will be provided by the NM NASA EPSCoR office.
  - Preparation guidelines for the budget can be found on Page 17 in the NASA Guidebook for Proposers.
  - The maximum funding that can be requested from NASA by a jurisdiction is \$100,000 per proposal. This amount is to be expended over three years in accordance with the budget details and budget narrative in the approved proposal.
- **Cost sharing is not required.** However, the proposer must be aware of costs such as hardware and/or software development, documentation development support (data to the ISS) that is not covered by this award.
- Management and Evaluation – ½ page.
  - A brief explanation of how the will be managed and what metrics will be used to monitor project progress.

Once we receive the pre-proposals, the NASA New Mexico EPSCoR Technical Advisory Committee (TAC) will select the project determined to have the best competitive chance of being funded by NASA. **Teams will be notified by February 16, 2023.**

Each funded NASA EPSCoR proposal is expected to establish research activities that will make significant contributions to the strategic research and technology development priorities of one or more of the Mission Directorates, be feasible, and contribute to the overall research infrastructure, science and technology capabilities, higher education, and economic development of the jurisdiction receiving funding. Prior EPSCoR awards are posted on the NASA New Mexico EPSCoR jurisdiction website for your review at:

<http://nmnasaepscor.com/>

**[Click here to access the NASA Guidebook for Proposers \(2022 Edition\)](#)**

Among others, the members of the TAC represent institutions such as NMSU, UNM, and NM Tech. They are members of a statewide body of collaborators and include external evaluators. Every effort is made to have a wide range of representation and expertise. The full proposal is submitted to NASA where they are competitively reviewed. The role of the NM EPSCoR TAC is to assure the proposal most likely to be awarded is well written, feasible, and that the project is mature enough to be flown and well-structured before it is sent forward to NASA.

## ISS Program vetting of select proposals

Proposed projects shall emphasize how a flight in microgravity will influence/improve the results/quality of any ground-based research. Proposals that the NASA EPSCoR Project Office recommends for acceptance will be evaluated by ISS Program personnel based on the following; a maximum of ten (10) points will be awarded per criterion.

- Feasibility
- Time to hardware readiness
- Crew time requirements
- Power requirements
- Physical space requirements
- Funding feasibility (EPSCoR)

ISS Criterion	Strong (10 points)	Average (5 points)	Weak (0 points)
Feasibility	No impediment	Minor impediment	Major impediment
Time to hardware readiness	Less than 1 year	Less than 2 years	More than 2 years
Crew time requirements	No crew involvement beyond installation and removal	Crew intervention required less than once per 1hr period per increment period (6 months)	Crew intervention required more than once per 1hr period per increment period (6 months)
Power requirements	None	Less than 500w	More than 500w
Physical space requirements	Fits in 3U CubeSat (100mm X 100mm X 340.5mm)	Fits within a single Express Rack Locker	Larger than a single Express Rack Locker; does not fit within one
Funding feasibility (EPSCoR)	Sufficient budget to complete experiment	Budget risks exist that shall be addressed	Insufficient budget to complete the proposed experiment

For this EPSCoR CAN, the Principal Investigator (PI) is the jurisdiction's EPSCoR Director. The PI is the administrator for the proposal. The Science-Investigator (Sc-I) for the this CAN will serve as the POC with ISS Program and lead all technical efforts ([Page 37 of CAN](#)).

### Pre-Proposal Evaluation Criterion

All proposals will be peer reviewed via NSPIRES and by representatives of the ISS Program Office in consultation with the NASA HQ Mission Directorates. The NM NASA EPSCoR Program Office will ensure that all proposals are evaluated based on:

- Intrinsic merit of microgravity requirement (i.e., what is the added value of flying on the ISS?)
- Approach to flight safety process; and utilization requirements of available ISS resources; and

- Budget (shall be adequate, appropriate, reasonable, and realistic, and demonstrate the effective use of funds that align to the proposed project)

This section is meant to help you understand the significant factors that that will make your proposal successful not only in the pre-proposal process, but also in assisting you prepare for and to write the full proposal should your proposal be selected by the TAC. **Pre-proposal evaluation will be based on intrinsic merit of microgravity requirement; approach to flight and ground safety review process; and budget.**

**Intrinsic merit of microgravity requirement (40% of score) – Page 14 of CAN**

- Existing Research - If relevant, the narrative shall include a very brief history of the NASA EPSCoR Research project (include the grant number assigned by the NSSC; and
- Benefit of a microgravity environment to the research – Each proposal shall provide a detailed technical narrative of the proposed research activity and the potential impact of a microgravity environment on the proposed research (i.e. Project Description, Microgravity Goals and Objectives, Anticipated Results, and Timeline).

**Approach to flight and ground safety review process (40% of score) – Page 14 of CAN**

The ISS Payload Safety Review Panel (PSRP) is an ISS Safety Review Panel (SRP) located at the JSC. The purpose of the PSRP is to ensure that the Payload Developer (PD) complies with technical and process safety requirements. Specifically, the PSRP performs the following functions:

- Assists the PD in the interpretation of safety requirements
- Conducts safety reviews during appropriate phases of the payload development to assess the payload compliance to the relevant program safety and process requirements
- Evaluates hazard assessment revisions resulting from modifications to payloads that may affect a safety critical subsystem or create a potential hazard to the crew, ISS, or other ISS/International Partner visiting vehicles
- Evaluates the safety analyses, safety reports, and waiver/deviation requests prepared by the PD and elevates to Program Management (for approval) those non-compliances that are above the delegated authority of the PSRP
- Ensures the resolution of payload safety issues, including (as required) the formation of splinter groups, subpanels, and/or coordination with other organizations to perform technical activities required to accomplish assigned responsibilities

The PD will be required to work with the PSRP to produce a Safety Data Package (SDP) as a part of the payload integration process. The SDP usually contains the following two parts:

- Part one of the SDP is descriptive text that contains information (usually drawings) to describe the payload, its systems, sub-systems, and interfaces, as well as flight and ground operations. It also summarizes hazard analyses used in the identification and control of payload hazards
- Part two of the SDP is typically a hazard report. The hazard report is used to summarize controls and verifications to ensure compliance to safety requirements. Elements of hazard report include technical requirement references, description of hazard, hazard category, hazard cause, hazard controls, and safety verification methods

More information on the SDP can be found in the “Payload Developers and Principal Investigators Payload Planning, Integration and Operations Primer” at:

[https://www.nasa.gov/pdf/501115main\\_ISS\\_Payload\\_Integration\\_Process\\_Primer\\_final\\_submission\\_baseline.pdf](https://www.nasa.gov/pdf/501115main_ISS_Payload_Integration_Process_Primer_final_submission_baseline.pdf)

**Budget (20% of score) – Page 15 of CAN**

A detailed budget is required for the entire three (3) year period of performance. **A budget template will be provided by the NM NASA EPSCoR office.** In addition, a suggested format to use in preparing the proposed budget is contained in the NASA Guidebook for Proposers, Appendix C (Page 37-39). The budget will be evaluated based upon the clarity and reasonableness of the funding request. A budget narrative shall be included in the proposal.

The proposed budget shall: be adequate, appropriate, reasonable, and realistic, and demonstrate the effective use of funds; reflect clear alignment with the content and text of the proposal; and contain sufficient cost detail and supporting information to facilitate evaluation.

If you need any guidance with your budget, we recommend you contact your institution’s Sponsored Projects Accounting office and your Research Administration Services office.