



A Brief Summary of the NASA EPSCoR Program

T. Gregory Guzik, Chair and Director

NASA EPSCoR Caucus, Louisiana NASA EPSCoR & Space Grant

Department of Physics & Astronomy

Louisiana State University, tgguzik@lsu.edu



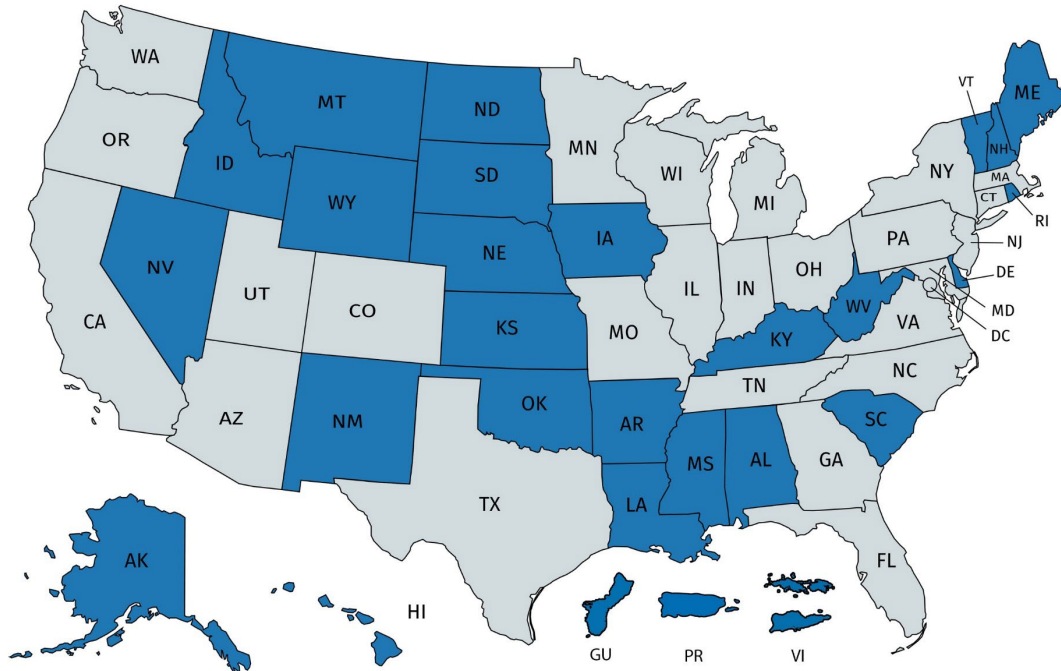
EPSCoR was established in 1988

- Congress formally established the “*Experimental Program to Stimulate Competitive Research (EPSCoR)*” in 1988 in order to help address a major discrepancy in the distribution of competitive research awards.
- Eligible jurisdictions receive less than 0.75% of the total NSF Research and Related Activities budget.
- The 28 EPSCoR states receive just 13.6 percent of all NSF research funds. A larger portion – 15% – went to just eight of the nation’s research universities.
- The 1988 statute stipulated that the program was to increase research and infrastructure capacity, thereby improving the ability of institutions in EPSCoR states to compete for non-set-aside federal R&D funding.
- Participating states were required to demonstrate a commitment to the program by establishing science and technology governing committees to ensure NSF funding was sensitive to the state’s overall strategy for research. Congress also required significant cost sharing between states and the federal government.
- In 2017 (P.L. 114-329) the program was reaffirmed and renamed to the “*Established Program to Stimulate Competitive Research.*”

EPSCoR Jurisdictions and Agencies



- Jurisdictions are currently eligible if their most recent 5-year funding level of NSF research support is equal to or less than 0.75% of the total NSF Research and Related Activities budget. This amount excludes EPSCoR funding from the count.





NASA EPSCoR was established in 1992

- Established in 1992 (P.L. 102-588) to enable jurisdictions to develop an academic research enterprise directed toward capability in aerospace and aerospace-related research and to contribute, in turn, to the jurisdiction's economic viability.
- Management function at NASA assigned to Office of Education (now Office of STEM Engagement).
- Established linkage between National Space Grant College & Fellowship Program and the NASA EPSCoR program.
 - Some similar research and workforce development goals
 - Require jurisdiction Space Grant Director to also be PI on all NASA EPSCoR projects
- The National NASA EPSCoR Caucus was organized by the jurisdiction Directors in 2012 to create an effective network of persons and institutions to support the NASA EPSCoR program.
 - The Caucus took the initiative to organize and conduct this meeting



NASA EPSCoR Objectives

- Contribute to and **promote the development of research capability in NASA EPSCoR jurisdictions** in areas of strategic importance to the NASA mission.
- Improve the capabilities of the NASA EPSCoR jurisdictions, including minority serving institutions, to **gain support from sources outside the NASA EPSCoR** program.
- **Develop partnerships** among NASA research assets, academic institutions, other agencies, and industry.
- Contribute to the overall **research infrastructure, science and technology capabilities of higher education, research faculty diversity, and economic development of the jurisdiction.**



NASA EPSCoR Program Opportunities

Research Infrastructure Development (RID): This “base” funding is awarded to all jurisdictions. Used for jurisdiction management, travel support for jurisdiction researchers to NASA centers, seed money research projects.

Research Implementation: Three-year research project support, focused on a major NASA interest area, and addressing jurisdiction needs.

ISS Flight Opportunity: Awarded only to Science-Is who have developed an instrument under NASA EPSCoR research that could be tested on the ISS. Funds only for travel and review support. No instrument development.

Suborbital Flight Opportunity: Open to all researchers in a jurisdiction to develop and fly a NASA relevant payload on a suborbital balloon, sounding rocket, aircraft, or reusable rocket vehicle.

Rapid Response Research (R3): In third year of implementation. More focused on specific tasks identified at the NASA centers or mission directorates rather than innovative research in a general area of interest. Offers an opportunity for developing a close working relationship with NASA researchers.

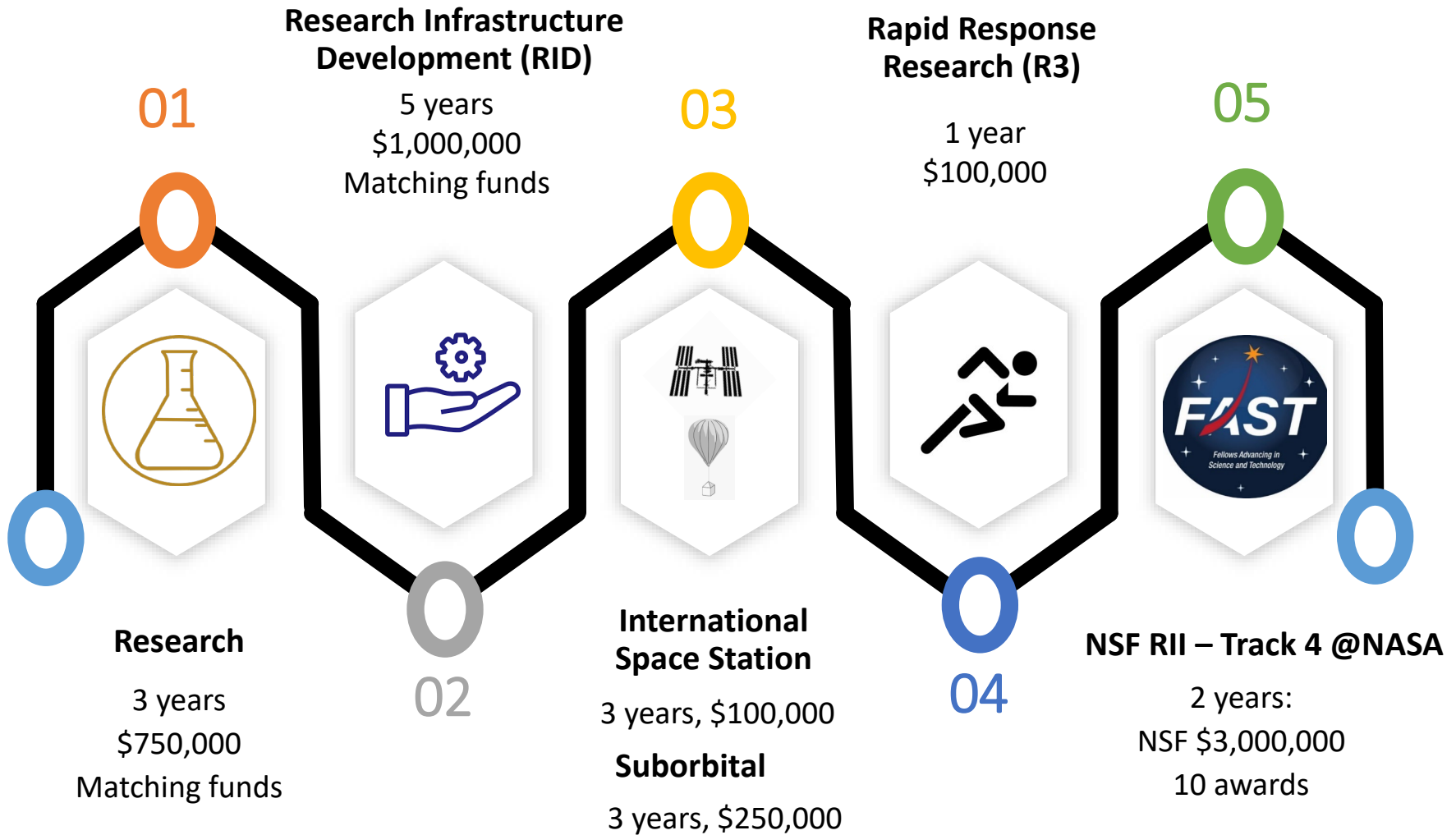
NSF RII Track-4:@NASA: Joint NSF / NASA EPSCoR focuses on faculty from institutions with high enrollments of students from underrepresented populations in STEM to collaborate with researchers at the NASA research centers.



NASA EPSCoR Program Opportunities

- ➔ **Research Infrastructure Development (RID):** This “base” funding is awarded to all jurisdictions. Used for jurisdiction management, *travel support for jurisdiction researchers to NASA centers*, seed money research projects.
- ➔ **Research Implementation:** Three-year research project support, *focused on a major NASA interest area*, and addressing jurisdiction needs.
- ISS Flight Opportunity:** Awarded only to Science-Is who have developed an instrument under NASA EPSCoR research that could be tested on the ISS. Funds only for travel and review support. No instrument development.
- Suborbital Flight Opportunity:** Open to all researchers in a jurisdiction to develop and fly a NASA relevant payload on a suborbital balloon, sounding rocket, aircraft, or reusable rocket vehicle.
- ➔ **Rapid Response Research (R3):** In third year of implementation. More focused on *specific tasks identified at the NASA centers* or mission directorates rather than innovative research in a general area of interest. Offers an opportunity for developing a close working relationship with NASA researchers.
- NSF RII Track-4:@NASA:** Joint NSF / NASA EPSCoR focuses on faculty from institutions with high enrollments of students from underrepresented populations in STEM to collaborate with researchers at the NASA research centers.

NASA EPSCoR Components



NASA EPSCoR research examples



- The NASA EPSCoR Stimuli document provides success stories that illustrate how state interests meet NASA interests. See file “Example NASA EPSCoR Research Projects 2020.pdf” and link below to the complete listings for 2017 through 2020.
- https://www.nasa.gov/stem/epscor/home/EPSCoR_Stimuli.html





Diversity and Inclusion

- **NASA EPSCoR Opportunities are open to ALL institutions in each jurisdiction**
 - Includes HBCU, Tribal Colleges, Community Colleges, and other MSI
 - There are more than 859 MSI in the EPSCoR states
- **NASA EPSCoR focus is on research infrastructure development in jurisdictions that are NOT heavily funded by federal agencies**
 - MSIs in such jurisdictions are resource poor and usually can not develop independent research programs without assistance
- **NASA EPSCoR is a federal / state partnership program and, consequently, jurisdiction as well as NASA needs must be addressed**
 - For most jurisdictions improving diversity in research and economic development is a priority
- **Some jurisdictions have implemented programs to encourage majority / minority collaborations within the state as part of the evaluation of pre-proposal for limited submission NASA EPSCoR opportunities**



NASA EPSCoR is focused on research

- **NASA EPSCoR is a higher education program focused on aerospace research**
 - Relevant to research and technology development in all NASA Mission Directorates and at all NASA Centers
 - Graduate student training useful for research infrastructure development but is not the primary goal of the program
- **Primary goal of NASA EPSCoR is to develop infrastructure for aerospace research in jurisdictions**
 - Institutions in EPSCoR jurisdictions are an under-utilized resource for NASA to advance science and technology development
 - For 2021-2022 there are more than 230 different NASA EPSCoR research projects across 28 jurisdictions
- **Later in this meeting jurisdiction researchers will provide “flash” presentations on research interest / capabilities directly relevant to SSC priorities**
- **Plan is for jurisdiction researchers who have already expressed interest in SSC project to hold another virtual meeting next week (2/16) to explore possible collaborative efforts**
- **Jurisdiction Directors will then support researcher travel to SSC, as appropriate, for face-to-face talks**