Overview of the Louisiana NASA EPSCoR Program

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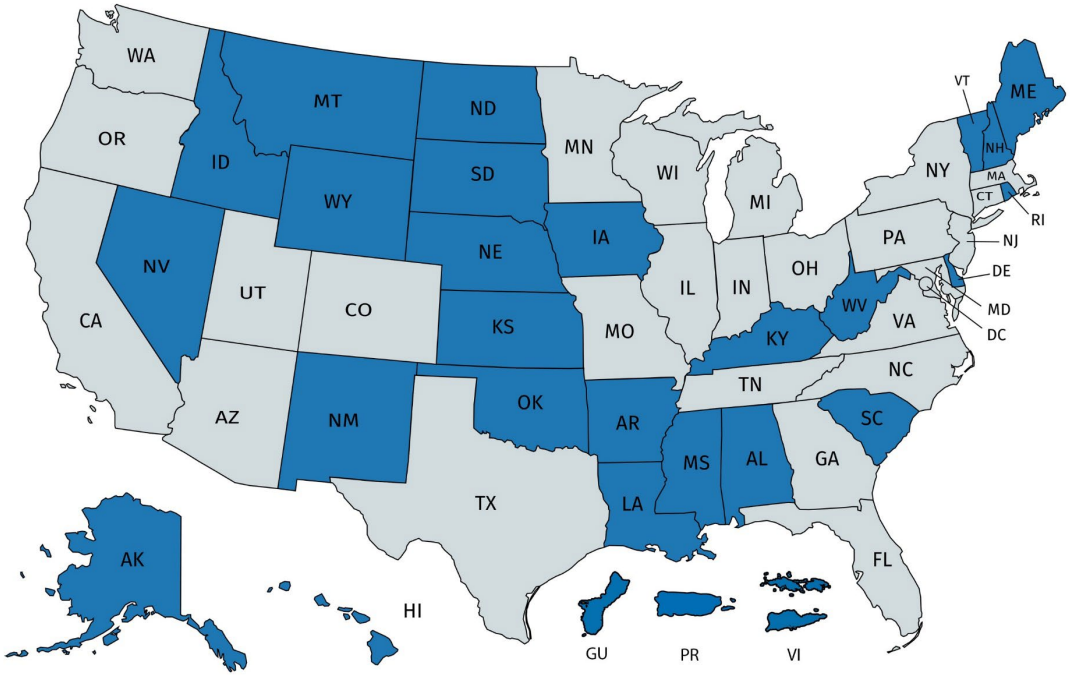
Questions can be submitted at anytime to
https://tinyurl.com/LANASAEPSCOR

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.

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.

Competitive Research Award: 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. Instrument development allowed.

Rapid Response Research (R3): 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 / NASA EPSCoR FAST: Joint NSF / NASA EPSCoR pilot to engage MSI and NASA researchers, establish strategic collaborations, and build experiences and know-how across respective communities.

NASA EPSCoR Components

01

Research

3 years
$750,000
Matching funds

02

Research Infrastructure Development (RID)

5 years
$1,000,000
Matching funds

03

International Space Station

3 years, $100,000

Suborbital

3 years, $250,000

04

Rapid Response Research (R3)

1 year
$100,000

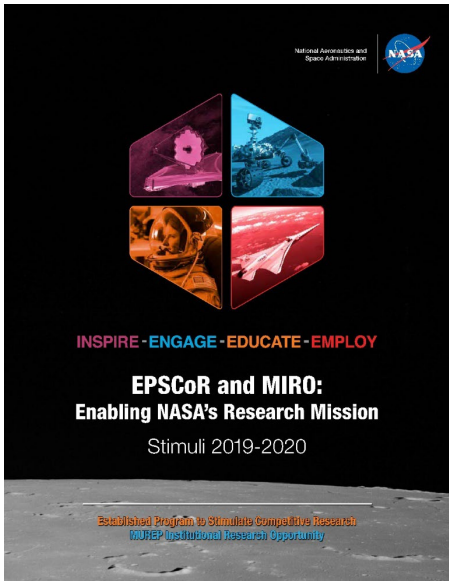
05

NASA and NSF PILOT

2 years:
NSF $300,000
NASA $30,000

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 that 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**

La Research Infrastructure Development

- **Completed third Year of 2019-2022 Cycle**
  - Awarded 1st one year NCE so end date is now 6/30/2023
- **Research Awards Program (RAP) Year 3 selections**
  - One-year research "seed" money (~$35k) projects
  - Six proposals were received by the 1/7/22 due date
  - Total requested funding was $225,433 with $127,936 of match
  - Two out-of-state reviewers evaluated all proposals and all submitted proposals were judged to be fundable
  - We were able to award all six with a combination of BoR and available NASA funds
- **Started next RID cycle (2022-2027) on July 1, 2022**
  - 5 years of NASA funding at $200k / year = $1,000,000
  - BoR continues the $125k / year match ($625,000 total match)
  - Submitted 7/12/21, awarded 10/22/21, contract 1/21/22
- **Next talk will provide details about new RID programs**

Year 3 RAP Awards

Inst.	PI Name	Proposal Title	$ Req	$ Match	NASA Center	NASA Contact	NASA MD
ULL	Farzad Ferdowsi	Prototyping Advanced Control Schemes for Space Power Systems	$38,041.00	$26,282.00	Stennis	Grant Tregre	AMD, HEOM, STMD
ULL	Mehdi Mokhtari	Experimental Evaluation of Desiccation Crack Development in Terrestrial Shales Analogue to Sheepbed Shale of the Gale Crater, Mars	$37,540.00	$19,176.00	JPL	Robert Anderson	SMD
Tulane	Nathan Morrow	Assessing NASA Open Science Outlook for Environmental Justice and Resilience of the Louisiana Gulf Coast (OSO-LoGiC)	$39,931.25	$25,095.87	Earth Science Data Systems (ESDS)	Kevin Murphy	SMD
LSU	Genevieve Palardy	Exploring Free-Standing Additive Manufacturing of Polymer Composites Using Frontal Polymerization	$40,000.00	$20,028.00	Marshall	Alexander Blanchard	HEOMD
Nicholls	Jonathan Willis	Integrated remote sensing and field based assessments to provide novel insights into climate-driven expansion of Avicennia germinans at its northern latitudinal limits	$29,921.00	$17,354.00	Ames	Christopher Potter	SMD
LSU	Ali Kazemian	Robotic Construction on the Moon and Mars using 3D Printing and In-situo Resources: Mechanical Performance Evaluation	$40,000.00	$20,000.00	Marshall	Jennifer Edmunson & Mike Fiske	STMD

Competitive Research Award

- **Our FY21 CRA proposal was awarded by NASA**
  - "Solid-State Battery", Xiao-Dong Zhou, Science-PI, University of Louisiana at Lafayette, started on 11/1/2021
  - This is our 14th award in this category over the last 15 years.
- **For FY22 six pre-proposals were evaluated by a panel of external reviewers and one was selected for development**
  - "Establishing a time dependent geoid model in Louisiana"
  - Chunli Dai, Science-PI, Louisiana State University-BR
  - Collaborating institutions are Tulane and Nicholls
  - **This proposal was not selected for funding**
- **Began the FY23 cycle on June 1, 2022**
  - Received 7 NOI from Tulane, LSU, LaTech, and ULL by the July 20 deadline
  - Pre-proposals are due August 31
  - Pre-proposals will be reviewed and one will be selected for further development
  - Final proposal will be submitted to NASA by November 16, 2022

ISS, Suborbital, R3

- **NASA EPSCoR ISS and Suborbital Flight Opportunities**
  - Nothing new awarded or submitted in this category over the last year
  - FY23 solicitation release anticipated for January 5, 2023
  - FY23 proposals due date anticipate for April 5, 2023
- **Awarded a 3rd FY21 Rapid Response Research (R3) project**
  - David Mills, LaTech, "Nano-based Ceramic-metal Composites to Support Planetary Agrosystems"
  - Started 12/1/2021
- **Two Louisiana Rapid Response Research (R3) proposals were submitted to NASA in Feb / Mar 2022**
  - Joan Lynam, LaTech, "Extraction of Metals from Regolith with Deep Eutectic Solvents"
  - David Mills, LaTech, "Metalized Ceramic Nanoparticle Containment Filter Systems for Mars Missions"
- **Awarded a FY22 Rapid Response Research (R3) project**
  - David Mills, LaTech, "Metalized Ceramic Nanoparticle Containment Filter Systems for Mars Missions"
  - Project will start on 9/1/2022

FY23 NASA EPSCoR R3

- **The FY23 NASA EPSCoR R3 Opportunity is released today (8/1/22)**
  - Required Notice of Intent is due Monday, August 29, 2022
  - Pre-proposals will be due Friday, September 30, 2022
- **This opportunity is focused on specific tasks and is NOT for general research**
  - Fifty separate research focus areas from aeronautics to planetary science
  - Each NOI / Pre-proposal can address only one research focus area
  - Only one NOI / Pre-proposal is allowed per PI
  - There are no restrictions on the number of NOI / Pre-proposals that can be submitted per each research focus area
- **Required Notice of Intent is due August 29, 2022**
  - Current NOI template should be used and indicate which research topic is addressed
  - NOI should indicate you discussed your proposed research with the topic POC
- **Pre-proposal is due September 30, 2022**
  - Limitation of 2 ½ pages for the scientific / technical / management plan
  - Proposal can budget up to $90,000 for a one year science effort
  - Direct labor costs only for personnel at Louisiana institutions
- **Top six (6) pre-proposals will be selected for further development**
  - NASA EPSCoR Director is PI & Pre-proposal PI will be the Sci-I
  - Proposals will be submitted to NASA by the BoR before December 15, 2022

La Space Grant vs NASA EPSCoR

Feature	SG	EPSCoR
Congressional Mandate	Yes	Yes
Jurisdictions	52	28
Primary Focus	Workforce Development	Research Development
Institutions	Affiliates Only	All Institutions
Recipient Organization	Louisiana State University / LaSPACE	La Board of Regents
Subaward Management	LaSPACE / Subaward PI	EPSCoR PI / BoR / Subaward Sci-I
Max Subaward POP	One Year	Three Year
Max Subaward Funding	~$40,000	$1,380,000 (NASA + BoR)

Overview of La NASA EPSCoR

Further information on the Louisiana NASA EPSCoR programs can be found at

https://lanasaepscor.lsu.edu//

Questions?

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