

New Mexico NASA EPSCOR

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Experimental Program to
Stimulate Competitive Research

Overview

1. Purpose and Goals
2. Research Infrastructure Development (RID)
Research Grants (up to \$25,000)
3. RID - Travel Grants
4. Cooperative Agreement (up to \$750,000)
5. Scholarship Program

New Mexico NASA EPSCoR Program

- Purpose: Build the core competitive research strength in New Mexico.
- Grow technology development methods & activities for the solution of scientific & technical problems of importance to NASA.
- Move towards gaining support from sources outside NASA EPSCoR.

New Mexico NASA EPSCoR Program

Three parts

1. Research Infrastructure Development (RID)
Research Grants (up to \$25,000)
2. RID - Travel Grants
3. Cooperative Agreement (up to \$750,000)

RID (Research Infrastructure Development)

Research Funding = \$25K

- Funding for up to \$25,000
- Leads to \$750,000 Funding
- Purpose: initiate collaborations, publications, & eventually secure non-EPSCoR & non-NMSGC research funding.

RID (Research Infrastructure Development) Research Funding = \$25K

- Initiate competitive research and technology development methods and activities for the solution of scientific and technical problems of important to NASA.
- 1:1 Non-Federal match
- Grants are competitively evaluated & awarded to NM faculty.
- Request for Proposals - **open now**
- Due **November 11**
- http://www.nmspacegrant.com/nasa_epscor.php

Research Infrastructure Development Funded Research

- Predicting Failure Behavior of Polymeric Composites in Space Vehicles Using a Unified Constitutive Model
- Investigation of High-Mass Protostars using SPITZER and NASA-IRTF
- Hydrogen Storage in Metal-Doped Ordered Mesoporous Carbons for Fuel Cell Applications
- Concept Study of using a Passive Mechanism to Simulate Walking on the Moon
- Simulating Reduced Gravity in Space Flight Training Using an Exoskeleton
- High Performance Turbojet Engine Nano-Lubricant

Research Infrastructure Development Funded Research

- Growth of Carbonaceous Materials for Enhanced Material Properties
- Carbonate dissolution in mixed waters due to ocean acidification & sea-level rise
- Automated Image Analysis of Calorimeter Data for Determination of Particle Identity and Energy
- Feasibility study of using Passive Mechanisms to Simulate Reduced Gravity for Training Astronauts
- Geomicrobiology of the Deep Biosphere
- Superconductor Gravity Experiment

Research Infrastructure Development Travel Grants

- Visit NASA Centers and other crucial locations associated with NASA research.
- Both short and medium-length (1-2 weeks) visits supported.
- Bring key researchers in NASA-related fields to New Mexico.
- Applications accepted year round until
May 14, 2012

Cooperative Agreement

- Up to \$750,000
- Usually due to NASA in March
- Technical Advisory Board selects 2 from white papers
- Technical Advisory Board performs Red Team Review

EPSCoR Funding - Cooperative Agreement

Self-Monitoring and Self-Repairing Aerospace Structures	\$741,144
Infrared Instrument Development for In-Situ Organic Detection	\$659,386
New Mexico Solar and Stellar Seismology	\$750,000
New Mexico Tech Exoplanet Spectroscopic Instrument (NESSI)	\$732,016
Proximity Operations for Near Earth Asteroid Exploration	\$749,980
Total NASA EPSCoR Funding	\$3,632,526
Matching Funds	\$3,257,536
Funding from proposal awards	\$10,850,279
Total funding to New Mexico from NASA EPSCoR	\$14,107,815

Summary of NASA EPSCoR Results

- Articles Published 32
- Presentations at Conferences 69
- Proposals awarded 23
- Proposals valued at \$10,850,279

Participant Demographics

	# Male	# Female	# Under-rep.
Faculty	40	7	4
Post-docs	1	1	0
Grad Students	32	15	10
UG Students	22	9	13
	95	32	27
	75%	25%	22%

New Mexico Space Grant Consortium Scholarship Program

- Undergraduate Scholarships = \$5,000
- Graduate Scholarships = \$10,000
- Applications due on-line at:
<http://spacegrant.nmsu.edu/NMSU/scholarships/index.html>
- Applications due March 2nd
- Students work with faculty on research that supports NASA Strategic Goals and NASA Mission Directorates