Building New Mexico's Science & Technology Future

From education and research to innovation.



New Mexico Legislative Science, Technology & Telecommunications Committee
Ganesh Balakrishnan and Selena Connealy | New Mexico EPSCoR



New Mexico
EPSCoR

More than two decades of building New Mexico's research capacity



Statewide program building New Mexico's research capacity and competitiveness

Connects universities, colleges, national laboratories, industry, and communities

Leverages NSF investment to strengthen New Mexico's ability to compete for federal research funding

Develops research infrastructure, workforce, and STEM education pathways



New Mexico EPSCoR

RIO-NM E-CORE

Current NSF EPSCoR program expanding research infrastructure and opportunities across New Mexico

New Mexico EPSCoR

TOP STORY

NM EPSCoR Selected to Lead $8 Million NSF Award to Strengthen State's Research Ecosystem

By Brittney Van Der Werff | August 20, 2024 updated 5 hrs ago

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NEW MEXICO–The National Science Foundation (NSF) has awarded $8 million to NM EPSCoR to lead the "Research Infrastructure Optimization for New Mexico" (RIO-NM) project, a transformative initiative connecting New Mexico's significant research resources with its network of Emerging Research Institutions.



Projects Funded by RIO-NM in 2025 & 2026

UNM University of NM

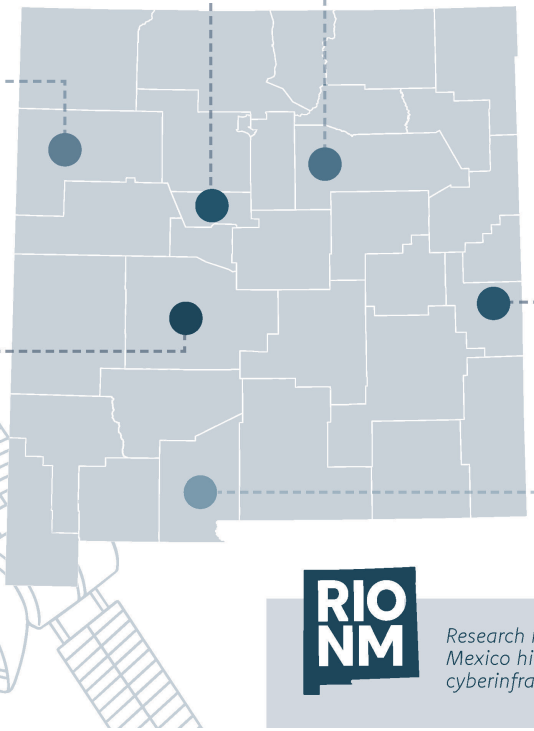
- **Quantum Technology Summer Research for Community College Transfer Students at UNM**
  SURE Award to Assistant Professor Victor Acosta supporting CNM student participation in UNM's Quantum Undergrad Research Experience, a 10-week summer research program focused on quantum technology led by active researchers in the field.
- **Transdisciplinary and Place Based Developmentof a Multidimensional Environmental Index for Bernalillo County**
  PI: Tybur Casuse-Driovínto, UNM
- **Workshop on Economic Alternatives to Prescribed Pile Fires as a Means for Forest Management in NM**
  PI: Gabriel Lopez, UNM

NTU Navajo Technical University

- **Implement Cyberinfrastructure to Enable and Serve Research Applications in New Mexico Pilot Project**
  The cyberinfrastructure core NTU team completed installation of a perfSONAR (performance management) node for campus use and updated campus network to add the Science building to the campus Science DMZ network.

NMT NM Institute of Mining and Technology

- **Mapping Economic Development in New Mexico Through Cyberinfrastructure-Enabled Remote Sensing and AI**
  Seed Award to Assistant Professor Jiakai Zhang providing $50K for faculty and students to create New Mexico's first high-resolution Economic Development Index—providing state decision-makers with improved data to inform policy and infrastructure planning.
- **Microbial-based Solutions for Uranium Contamination in New Mexico Soils: Implementing a New CURE Course**
  PI: Benjamin Duval, NMT
- **New Mexico Energy Initiatives Workshop**
  PI: Jean-Lucien Fonquergne, NMT
- **Large Language Models for Code and Compiler Education: A Course-Based Undergraduate Research Experience**
  PI: Huixin Zhan, NMT



NMHU NM Highlands University

- **Mismatch Binding Molecules as Therapeutic Agents for Repeat Expansion Neurodegenerative Diseases**
  Assistant Professor Nabanita Sakia and her students are using a $50K Seed Award to investigate if certain plant compounds can disrupt toxic molecular formations associated with Huntington's disease.
- **The Fungus Among Us: Cultivating and Sequencing Fungi from Diverse Environments: Undergraduate Research That Connects Mycelium to Students and Our World**
  PI: Michael Remke, NMHU

ENMU Eastern NM University

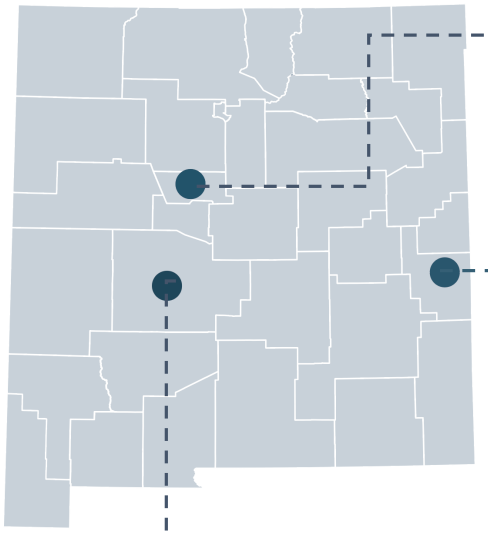
- **Expanding Research Awareness in AI for Math Sciences Undergrads**
  SURE Award to Assistant Professor Eduardo Ceh-Varela funding a comprehensive conference for students intended to bridge the gap between undergraduate coursework and cutting-edge AI research.
- **Utilizing Conservation of the Rio Grande River Cooter (*Pseudemys gorzugi*) as a Comprehensive Undergraduate Experience in Conservation Biology**
  PI: Corey Green, ENMU

NMSU NM State University

- **A Workshop to Develop a Methodological Framework and Future Research Directions on Post-Wildfire Reforestation in New Mexico**
  Professor Kelly Jones brought together experts to develop a methodological framework and outline research needs for assessing the societal benefits and costs of post-wildfire reforestation in New Mexico.
- **Science Communication Workshop for NSF E-RISE: DREAM Center Researchers**
  PI: Suparna Chatterjee, NMSU

RIO NM

Research Infrastructure Optimization for New Mexico is catalyzing a future where every New Mexico higher education institution is a driver of research discovery, powered by advanced cyberinfrastructure and bold collaboration across the state's research ecosystem.



UNM Workshop on Economic Alternatives to Prescribed Pile Fires as a Means for Forest Management in NM

PI: Gabriel Lopez, UNM

ENMU Expanding Research Awareness in AI for Math Sciences Undergrads

SURE Award to Assistant Professor Eduardo Ceh-Varela funding a comprehensive conference for students intended to bridge the gap between undergraduate coursework and cutting-edge AI research.

NMT Mapping Economic Development in New Mexico Through Cyberinfrastructure-Enabled Remote Sensing and AI

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New Mexico EPSCoR


Today’s foundational discovery will become tomorrow’s strategic technology
New Mexico
EPSCoR



New Mexico needs both targeted investment and a broad research base

Focused investments **thrive** within a diverse research ecosystem



STRATEGIC FOCUS CAN

Build critical mass

Accelerate priority technologies

Attract companies and talent

Respond to national opportunities



DIVERSIFIED FOUNDATIONAL RESEARCH CAN

Expand capability outside current priorities

Broaden student and faculty pathways

Establish emerging ideas in New Mexico

Make New Mexico's economy resilient

New Mexico EPSCoR

Research is the glue that connects the ecosystem



New Mexico EPSCoR

A complementary opportunity: Statewide foundational research funding



BROAD

Open across S&T
Plan research areas



COMPETITIVE

Peer-reviewed,
merit-based awards



STATEWIDE

Pathways for institutions
across New Mexico



LEVERAGED

Build preliminary
results for federal
proposals



PEOPLE-CENTERED

Create student,
workforce, and faculty
opportunities



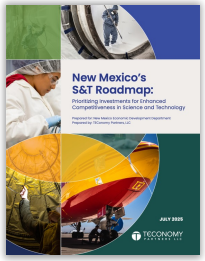
CONNECTED

Encourage shared
infrastructure and
collaboration



https://www.nmepscor.org/engagement/new-mexico-science-and-technology-plan

The opportunity to **complement and diversify** New Mexico's strategic investments



TARGETED TECHNOLOGY INVESTMENTS

- Quantum
- Artificial Intelligence
- Advanced energy
- Space, aerospace & defense
- Bioscience and other strategic sectors



FOUNDATIONAL RESEARCH ECOSYSTEM

- Physical sciences
- Engineering & emerging technologies
- Computing & data
- Biological systems
- Water, environment & societal systems
- STEM education & research pathways

New Mexico EPSCoR

The 2026 NM S&T Plan deliberately **broadens the lens**

A statewide framework for foundational research and scientific workforce development

Foundational Sciences	Enabling Sciences	Societal & Environmental Systems
Fundamental Physical Sciences	Engineering & Emerging Technologies	Geosciences & Environmental Resilience
Biological Systems & Human Health	Computing, Data & Intelligent Systems	Human & Societal Systems
		STEM Education & Research Pathways

Cross-cutting capabilities: Convergence Science + Advanced Research Infrastructure

New Mexico EPSCoR

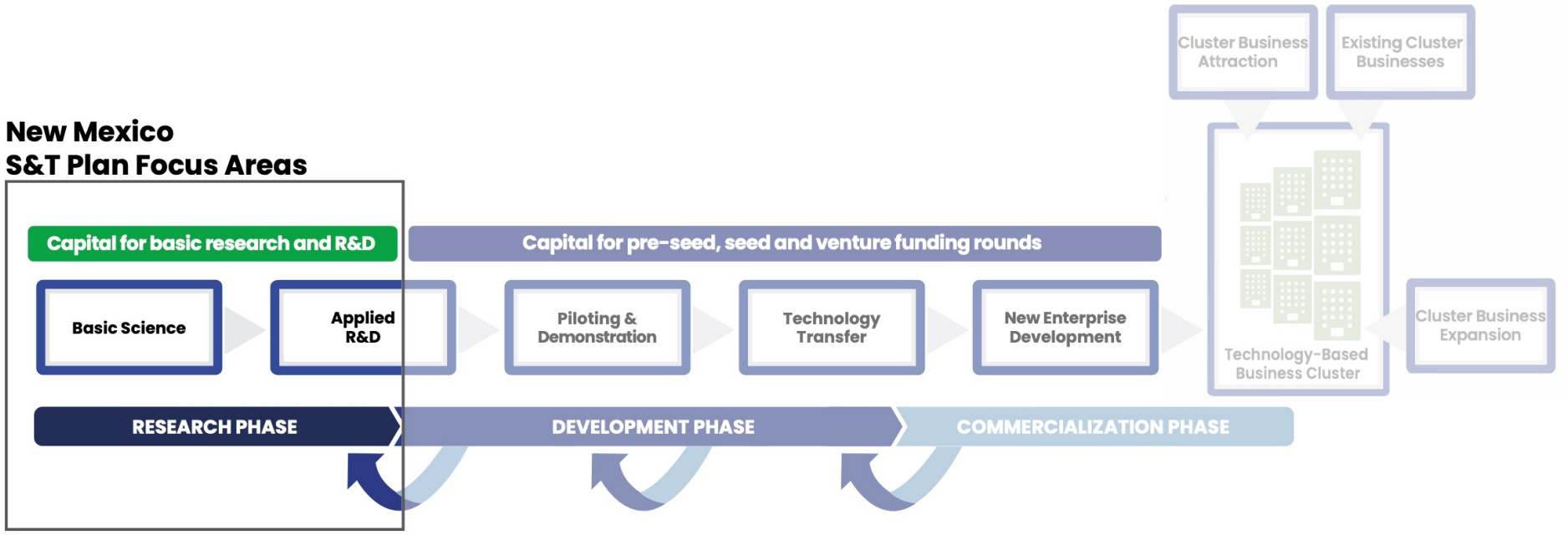


Figure 1. S&T Plan Focus Areas Within an Innovation-Based Economic Development Ecosystem. Modified from Figure 19, p. 108, New Mexico's S&T Roadmap, New Mexico Economic Development Department, July 2025. Source: TEConomy Partners, LLC.

A Two-Year Statewide Research Capacity Demonstration

$2 Million over 2 Years



FACULTY SEED GRANTS

Competitive awards to launch new ideas, generate preliminary results, and position researchers for external funding



RESEARCH WORKSHOPS

Bring researchers together across institutions to develop collaborations, new research directions, and competitive proposals



UNDERGRADUATE RESEARCH EXPERIENCES

Create hands-on research opportunities and pathways into New Mexico's STEM workforce and graduate programs



TEACHER RESEARCH EXPERIENCES

Engage K–12 teachers directly in research and bring that experience back into New Mexico classrooms

New Mexico EPSCoR



Complement targeted programs while preserving the breadth of New Mexico’s research capacity

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