New Mexico EPSCoR

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Annual Report 2025/2026

Zoe Hutcherson, Graduate student, ENMU

Advancing collaborative research across New Mexico

CULTIVATING THE FUTURE

NM EPSCoR Outstanding Mentor Awardees

Gloria Zhang
Assistant Professor
Civil Engineering

NMSU

“ Dr. Zhang helped me gain the courage to conquer obstacles and the self-confidence to chase triumph. ”

—nominating student

Eduardo Ceh-Varela
Assistant Professor
Computer Science

ENMU

“ He never allowed me to see my responsibilities as limitations, but rather as unique strengths that shaped my perspective and resilience. ”

—nominating student

Jingjing Wang
Associate Professor
Economics

UNM

“ Her mentorship shaped not only the direction of my academic career but the kind of economist I aspire to be. ”

—nominating student

NM EPSCoR State Committee

The NM EPSCoR State Committee has begun the process of updating the Science and Technology Plan. Recent activities include identifying S&T committee members, interfacing with state government on research priorities, meeting with TEConomy, an organization that is conducting a study of technology-based economic development in New Mexico, and developing analysis measures and a survey. The State Committee has committed to reviewing and expanding membership in order to better represent the full spectrum of research ecosystem stakeholders. In order to facilitate connections to other federally funded projects, the State Committee has extended non-voting membership to the directors of New Mexico NASA EPSCoR, New Mexico INBRE, and the PIs of the E-RISE projects.

E-RISE PROJECTS IN NM

EPSCoR Research Incubators for STEM Excellence

The NSF E-RISE program supports the development of sustainable research infrastructure and capacity in EPSCoR jurisdictions through collaborative, hypothesis-driven or problem-driven research and workforce development to improve competitiveness in a selected STEM field.

Distributed Resilient and Emergent intelligence-based Additive Manufacturing Center (DREAM Center)

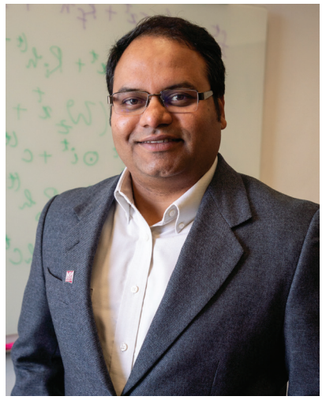
$7 million
2024–2028

PI: Jay Misra, NMSU
Co-PIs: Mihail Devetsikiotis, UNM; Roopa Vishwanathan, NMSU; Marceline Masumbe Netongo, NTU; Krishna Roy, NMT

The DREAM Center is a collaborative project across four research institutions with specialized skillsets in cybersecurity, artificial intelligence, distributed networking systems, advanced manufacturing, and industrial engineering, with a mission to build foundational cyberinfrastructure that will bring distributed intelligent additive manufacturing to New Mexico and beyond.

“ One immediate output has been the development of technology that uses AI to automate 3D printing to significantly improve adoption and also to perform real-time quality assessment of the print. ”

–Jay Misra, DREAM Center PI



Forest Research for New Mexico Water and Carbon Management (FOR-NM)

$7 million
2025–2029

PI: Marcy Litvak, UNM
Co-PIs: Niall Hanan, NMSU; Stephanie Bestelmeyer, Asombro Institute for Science Education; Kathy Whiteman, WNMU; Alex Webster, UNM

FOR-NM unites researchers, land managers, agencies, and communities to strengthen state forest and watershed health. By pairing data-driven, multi-scale science with local priorities, this multi-partner project builds shared capacity through K-12 outreach, workforce pathways, and hands-on training for undergraduate and graduate students.

“ We are increasing knowledge about how specific forest management strategies across the state have impacted ecosystem structure...and how this, in turn, regulates water quality and quantity. ”

–Marcy Litvak, FOR-NM PI

WORKFORCE PATHWAYS

NM EPSCoR supports all EPSCoR projects in the state through collaboration and coordination. Our current NSF E-CORE project, Research Infrastructure Optimization for New Mexico, strengthens the state's research ecosystem by (1) investing in higher education institutions to expand cyberinfrastructure and research pathways, and (2) building connections across higher education, national laboratories, industry, non-profits, and government. This report shares summaries of early project accomplishments and outcomes.

-Ganesh Balakrishnan, NM EPSCoR Director

CNM BioBridge Program

The BioBridge Pathways Project successfully launched a student research program, engaging 14 Central New Mexico Community College students in summer research experiences at University of New Mexico labs. This program built cross-institutional collaboration and provided technical training and research engagement at scale.

> "The lab was so impressed with my work that they gave me a job offer...and because of my skills I learned from biotech I was able to jump right in seamlessly."

–Renee Pena
2025 CNM BioBridge Student

NMSU STEM Fellows

The NMSU pilot project launched in Fall 2025 with a cohort of 13 freshman students. Of the 13, six will have the opportunity to be placed in a summer research experience with industry partners. One highlight of the program was the opportunity to attend the 2025 NM Research Symposium in Albuquerque.

> "The program pushed me to think independently...and motivated me to continue developing my skills as I pursue internships and consider graduate school in the future."

–Leonardo Medrano Garcia
2025 NMSU STEM Scholar Student

Early Career **Workshop @ UNM**

This two-day workshop in June 2025 addressed proposal writing, project management, and effective public communication.

> "Excellent grant writing tips, networking, diverse perspectives, and a very encouraging environment."

–Workshop Participant

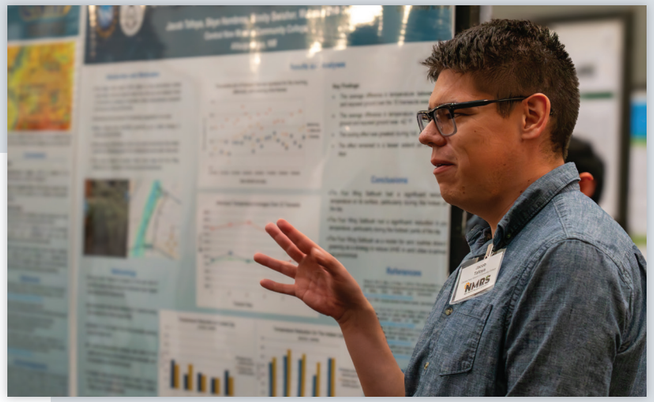
18 participants from UNM, NMSU, ENMU, NMT, and SNL

New Mexico **Research Symposium**

Held on November 15, NMRS 2025 set records with 77 student posters and 24 research presentations across six topical oral sessions.

> "An invaluable experience. I am deeply appreciative of the time, consideration, and assistance that made this possible."

–2025 NMRS Attendee



200+ participants from NMHU, ENMU, CNM, NTU, UNM, NMT, NMSU, SFCC, NNMC, LANL, SNL, and NMAS

Postdoc Early Career **Workshop @ NMSU**

Included in the NMSU Postdoc Association's September 2025 Research Symposium, this full-day session focused on training in project management and proposal development.

> "Very grateful that this training was brought to southern New Mexico faculty and postdocs."

–Workshop Participant

30 participants from UNM, NMSU, and ENMU

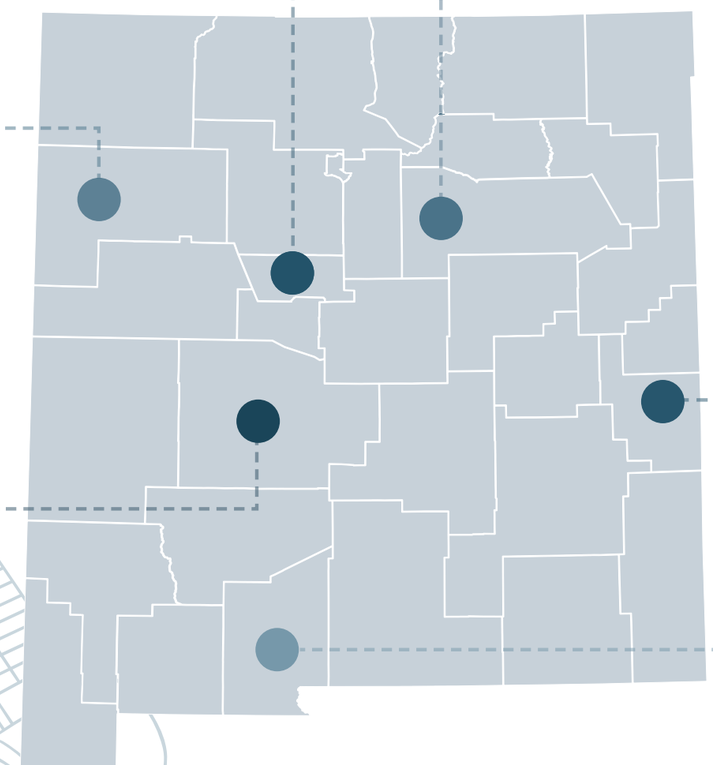
Projects Funded by RIO-NM in 2025 & 2026

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

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



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.

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

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.
- **New Mexico Energy Initiatives Workshop**
  PI: Jean-Lucien Fonquergne, NMT
- **Microbial-based Solutions for Uranium Contamination in New Mexico Soils: Implementing a New CURE Course**
  PI: Benjamin Duval, NMT
- **Large Language Models for Code and Compiler Education: A Course-Based Undergraduate Research Experience**
  PI: Huixin Zhan, NMT

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.

NM EPSCoR State Committee 2025–2026

The State Committee is comprised of academic, government, and industry leaders who guide statewide research priorities and ensure EPSCoR projects align with New Mexico's science and technology goals. Their work is essential for strengthening research infrastructure, improving competitiveness, and positioning the state for the future.

CO-CHAIRS

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Innovative Technology Partnerships, LLC

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NM Higher Education Department

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Hengameh Raissy
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