

**SEARCH FOR THE
DIRECTOR FOR
THE NATIONAL
HYDROLOGIC
INNOVATION
CENTER**



Search Committee



Search Committee Chair

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Search Coordinator

Vanessa Grain; Senior Chief Executive Assistant to the President

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Lorie Liebrock, PhD; Director, Cybersecurity Center of Excellence and Professor of Computer Science

Scott Tyler, PhD; Foundation Professor, Department of Geological Sciences and Engineering, University of Nevada, Reno

Stacy Timmons; Associate Director Hydrogeology Programs, NM Bureau of Geology and Mineral Resources

Fred Phillips, PhD; Emeritus Professor of Hydrology, Earth and Environmental Science Department

Daniel Stephens, PhD; Adjunct Professor of Hydrology, Founder of Daniel B. Stephens & Associates, Inc.

Job Profile

Title: Director for the National Hydrologic Innovation Center

Location: New Mexico Institute of Mining and Technology

Area: Earth and Environmental Science Department

City/State: Socorro, New Mexico

Overview

New Mexico Tech seeks a dynamic and entrepreneurial leader to serve as the Director of the newly created Hantush-Deju National Hydrological Innovation Center, located on the New Mexico Tech campus.

This endowed position will report to the Vice President for Research, and the selected hire will oversee all facets of center development and management. The Center's vision is to improve understanding of our water resources through modern hydrological and engineering technology so we can secure a sustainable supply of water for the future, while also educating the hydrologists of tomorrow.

To support this vision, the Director will develop timely and relevant research initiatives led by Center staff, in collaboration with other researchers at NMT, as well as experts at our National Labs and other universities. Through the Center and its network of collaborators, innovative and practical advancements in hydrology are to be derived, using, as appropriate, tools such as the internet of things, and artificial intelligence/machine learning (AI/ML) applied to 'big data' sets analyzed with high performance computing, for example, AI/ML applied to the quantification of environmental water fluxes or changes in storage.

Duties and Responsibilities

Strategic Direction

The Director will track key societal issues related to water, assess current research gaps, and develop new innovative research focus areas to advance the mission and impact of the Center. The Director will develop strategies, research goals, and implement plans to grow the Center. The Director works with the VP for Research to define priorities and direction of the Center. The Director will also work with an external advisory board to set Center priorities.

Business Development

The Director will support the research teams by searching for potential funding opportunities and developing effective research partnerships relevant to the research focus areas. The Director will develop strong professional relationships with the research community, including funding organizations, and be well recognized by leaders in their field. The Director will also oversee the development of proposals, and make funding presentations to companies, government agencies, prospective donors, and university leaders.

Management, Supervision, and Mentoring

The Director shall manage, inspire, and mentor researchers, students, and collaborators. This will include fostering a spirit of innovation, collaboration and collegiality among staff and research teams within the Center, as well as between the Center, New Mexico Tech's Hydrology Program and other research and academic units on campus. The Director will lead and participate in the recruitment, hiring, management, and supervision of employees.

Research

The Director must have a desire to solve difficult problems through supervising and ensuring cutting-edge research and also to identify emerging opportunities for funding innovative research in hydrology. Conducting independent research will be encouraged. The Director must be able to collaborate with experts in industry, academia, and government agencies on a variety of topics. The Center will encourage collaboration by providing short-term opportunities for visiting scientists or others on sabbatical to participate in Center research.

Communication

As the chief ambassador for the Center, the Director will promote, and broadly communicate its mission through focused conferences, peer-reviewed literature and electronic media. The Director will also communicate NMT's commitment to innovative research in hydrology to legislators, the scientific community, philanthropists, and stakeholders world-wide.

...Duties and Responsibilities

Education

The Director must value, and contribute to, the educational mission of NMT. The Director will work to recruit and guide leading experts in a wide variety of subject areas to provide content and presentations for courses and other educational initiatives. The Center will support the education mission of NMT by funding undergraduate and graduate students and post-doctoral researchers, whose work aligns with center goals.

Diversity, Equity, and Inclusion

The Director must demonstrate a commitment to promote a culture of respect where diversity, equity, and inclusion are embraced.

As a supplement to the points mentioned above, the Center Director should possess the following attributes:

- As the Presidential Endowed Chair, the Center Director will have an exceptionally strong, internationally recognized research portfolio in hydrology.
- Experience with applications of artificial intelligence and machine learning to hydrology is desirable.
- Has established a broad network of positive relationships with scientists, potentially collaborating research organizations, and research sponsors in the field of hydrology.
- Excellent verbal communicator of research results to peers, to research end-users, and to the public.
- Ability to work in a top-tier academic environment where research is a key element in student education.
- Excellent organizational management skills including dealing with human resources issues, budget and cost control.
- Has broad scientific insights and keen interest in identifying cutting-edge niches for building new focus areas for hydrologic innovation.
- Demonstrated ability to work with and develop productive interdisciplinary research teams.
- Strong interpersonal skills well-suited to promoting the Center, to attracting research funding, and to recruiting researchers and students.
- Passionate about the unique opportunity to lead the Center, building it to prominence nationally and internationally, and continuing the legacy of excellence in hydrology at NMT.

Position Qualifications

Required Qualifications:

- Minimum of twenty (20) years of progressively advancing technical and management experience.
- Must have demonstrated skills and ability to communicate at all levels and to solve interpersonal problems.
- Strong leadership qualities and abilities to organize and manage contract research and develop partnerships with government and private industry.
- Demonstrated experience in managing staff. Experience, knowledge and familiarity with top level administrators and decision makers from the federal government.
- Current or past experience in obtaining funding and conducting research.
- PhD in hydrology or related field.

Desired Qualifications:

- Leadership experiences at the state and national level.
- Demonstrated excellence in leading or participating in a complex organization-focused on multi-faceted research.

Application Requirements

- Cover Letter outlining interest in the position, relevant experience, and a statement articulating the candidate's vision for the role of the Hydrologic Innovation Center Director at NMT; Curriculum Vitae; Brief biography, not to exceed one page; Names, with brief biography, and contact information for five (5) references, at least one of whom should be from the candidate's current institution or organization.
- This is a full-time executive position with a preferred starting date of January 2023.
- Applications will be received until the position is filled.
- For full consideration, a complete application packet should be received by October 15, 2022.

**“New Mexico Tech
is an Equal
Opportunity/Affirmative
Action Employer and
Educator”**

Please email complete application packet (one single PDF attachment) to:

nmtjobapps@npe.nmt.edu
Cc: vanessa.grain@nmt.edu

By mail, received by October 15, 2022
(for full consideration), to:

**New Mexico Tech
Human Resources
801 Leroy Place
Brown Hall Box 000
Socorro, NM 87801**

The National Hydrologic Innovation Center

VISION

The hydrology program in the Earth and Environmental Science Department at New Mexico Tech has a vision dedicated to improving our understanding about our water resources so that we can secure a sustainable supply of water for tomorrow. The hydrology faculty wants to further enhance the reputation of NMT for prominence in subsurface hydrology, maintain their national ranking as a top-tier program, and be the academic institution of choice for high caliber hydrology graduate students from throughout the world.

CREATION

The late Mahdi Hantush (Fig. 1) founded the hydrology program at NMT in 1958 along with C.E. Jacob. This was the first known graduate program in hydrology in the world. Dr. Hantush contributed innovative analytical tools for us to evaluate the characteristics of leaky aquifers and numerous other models. His models found wide practical use throughout the world and are still in use today. Dr. Hantush headed the New Mexico Tech hydrology program until his professor, C.E. Jacob, became the head of the program in the late 1960's. Dr. Deju was a student of both Hantush and Jacob (Fig. 2).

As a graduate of Tech, Dr. Raul Deju has offered to provide a generous endowment to the Institute upon his passing. This private funding is essential to ultimately achieving the vision of the hydrology program. Dr. Deju's gift would create a center for hydrologic innovation to support the hiring of key research positions, laboratories, and equipment to carry out the research objectives of the center.



Figure 1: Dr. Mahdi Hantush



Figure 2: Dr. Raul Deju

The National Hydrologic Innovation Center

PURPOSE

The Hantush-Deju Center for Hydrologic Innovation (the Center) is intended to continue the legacy of the NMT hydrology program and will expand its impact as a center of excellence for decades to come. The Center will have research focus areas tailored to the strengths of the faculty and external research drivers. The Center will be flexible in selecting research programs to focus on so it can adapt or expand its research emphasis in response to the water needs in a changing world.

Identifying new sources of fresh water and quantifying the amount of water in storage in our aquifers as well as the changes in storage as a result of pumping and climate change are key challenges for water managers concerned with sustainability of their underground water resource.

The initial area of emphasis for the Center will help us better understand the infrastructure of our aquifers and quantify the components of the ground water balance at scales ranging from a well field or groundwater basin to the global scale. This innovative research to evaluate water balance components utilizes remote sensing, GPS, and geodetic measurements to evaluate water flow by measuring small displacements of the earth. Some of NMT faculty in the hydrology and geophysics programs are already working in these areas and make it an excellent choice for the initial research program at the Center.

ON-CAMPUS COLLABORATION ARTIFICIAL INTELLIGENCE AND BIG DATA CENTERS

Artificial intelligence and machine learning (AI/ML) are tools increasingly being applied to hydrologic problems. Extensive data sets of hydrologic information (e.g. precipitation, water levels in wells, pumping rates etc.) have been analyzed by hydrologists using AI/ML methods for the past decade or more and are now finding even greater application in hydrologic predictions. Likewise, it is anticipated that the extensive data generated in the water balance research focus area of the Hydrologic Innovation Center using remote sensing and other geophysical methods will be well suited for analysis using AI/ML methods.

Fortuitously, NM Tech already has AI activity on campus working toward establishing a Center for Artificial Intelligence & Data Science (CAIDS). The research staff in the new Hydrology Center would be able to apply the expertise of the CAIDS as one means of tackling complex hydrologic problems. The current work by hydrogeologists in the NM Bureau of Geology in mapping the aquifers of New Mexico is also highly relevant to the emphasis of the Center. The aquifer mapping project would provide an excellent baseline for comparing assessments of our major aquifers using the remote sensing and geophysical methods applied by the Center's researchers.

Further, the NM Bureau of Geology, with funding from the State legislature, was recently tasked to make water data in the State more transparent and accessible. Many of these water data sets are quite extensive and nicely complement the aquifer mapping project. The big data sets produced State-wide by the NMBCG could be analyzed by hydrologists affiliated with the Center using AI/ML methods. Figure 3 is an example of on-campus collaboration.

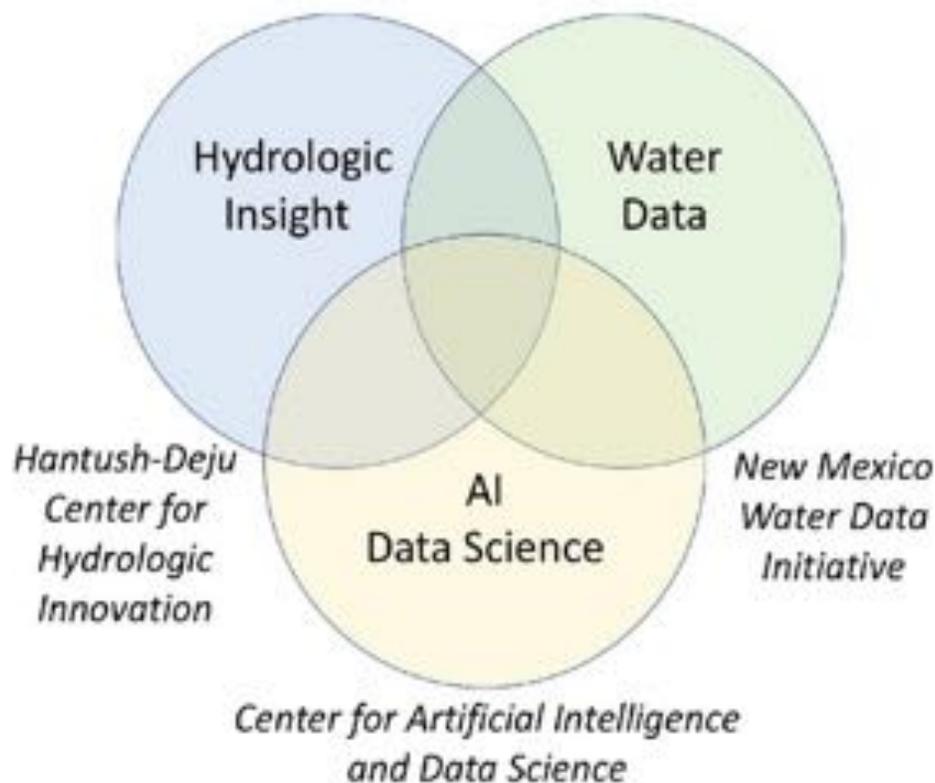


Figure 3: Potential Collaborations

INNOVATION

Innovation is at the heart of the Center, where significant advances in basic and applied research are expected and where commercialization is highly encouraged. The Center will stimulate and encourage innovation in subsurface hydrology.

In fact, the idea of building a research center incubated with endowments and private funding is in itself innovative, just as the founders of the hydrology program were innovative in starting it. Innovative ideas at the Center will be fostered in multiple ways.

First, the director will be selected in part on the basis of his/her creativity and ability to develop a vigorous team-based research program that fits the vision and objectives of the Center and the goal of becoming a center of national stature.

Faculty affiliated with the center may seek part time research appointments with the center to reduce their teaching load and allow them more time to focus on research.

The director may make available discretionary funds on a competitive basis to faculty who submit innovative proposals which support the Center's goals.

Research professionals will be hired to fill positions for 2 to 4-year periods to keep fresh ideas coming into the Center.

Funding from the Center will support sabbatical leaves for 6 to 12 months for scientists visiting from academia, from the national labs, or from industry who could bring new perspectives to the Center.

The Center will host small specialty workshops and conferences which encourage dialogue among leading scientists collaborating together to address a critical issue through transformative thinking, much like the Penrose or Chapman conferences.

In combination, implementing these concepts will provide for cross-pollination of new ideas with NMT faculty, Center researchers and students to create a truly unique innovative environment for hydrologic research. The Center must evolve with the stature of a national lab and with the resources to effect innovation to become the driving force to understand how to best manage water resources in America and indeed the world.

INCENTIVIZED RESEARCH

To further spur innovative and collaborative research aligned with the goals of the Center, researchers will be incentivized to affiliate with the Center by returning to them a portion of the research overhead generated by their grants and contracts. This is already working well in NMT's Petroleum Recovery Research Center (PRRC), and it is anticipated that a similar model could be developed for researchers affiliated with the Center.

EXTERNAL COLLABORATION

The Center will also forge strategic partnerships through collaborations with staff in our national laboratories. National lab hydrologists who have funded projects with overlapping or complementary interests with the Center would be welcome to engage the expertise of the Center's research staff and graduate students in undertaking their projects in a more cost-effective manner.

The Center, through its staff and affiliated faculty, will seek opportunities to leverage their research efforts through collaboration with other hydrology programs, such as the University of Arizona, the Desert Research Institute, Colorado School of Mines or others to respond to calls for proposals on large scale, long duration, or regional research proposals. Collaboration with international research institutions is also anticipated.

Additionally, the Center will be open to collaboration with industry. For example, consultants or sensor developers who want to conduct proof of concept experiments would be welcome to the Center where, in addition to laboratory facilities, abundant land is available for field experiments which could be maintained by NMT researchers and graduate students.

The Center director would explore developing collaborative industry research partnerships in which companies, public utilities or other organizations sponsor research in exchange for gaining timely access to cutting edge technology. Figure 4 depicts the extensive network of anticipated external research partnerships. The Center anticipates in its first year to establish close working ties with centers of excellence in New Mexico such as Los Alamos, Sandia, and key institutions such as University of New Mexico, New Mexico State University and the Navajo Technical University.



Figure 4: Anticipated external research partnerships

COMMUNITY OUTREACH AND COMMUNICATION

The Center will be actively engaged in disseminating information developed through its staff and associated faculty. A webmaster will develop and maintain a website to quickly communicate practical information derived from the Center's research efforts to the water community at large. The Center would host topical bi-annual international water conferences on hydrologic innovation which would be open to the academic community and all water stakeholders. Breakout sessions at these conferences are planned to listen to the key issues of concern. A communication specialist is anticipated to maintain a blog which would also provide a forum for exchange of information and innovative ideas.

FUNDING

Funding for the Center initially will be seeded by internal resources at NM Tech and eventually from the endowments. Funds are needed to grow the center, including support for the Center Director, rotating researchers, post-doctoral fellowships, graduate assistantships, and supplemental salary support for faculty with joint appointments with the Center. The Center staff would also seek external funding from other philanthropists and from traditional research sponsors of competitive grants such as the NSF, USGS, other federal agencies, as well as from international or state sources.

STUDENTS

Financial aid would be available to undergraduate and graduate students to support the researchers affiliated with the Center. There would be hourly support for undergraduates who want to gain experience as part of the Center's research team. Research assistantships would be offered to graduate students in the Earth and Environmental Science programs or other departments for students to work under the direction of the Center's researcher staff.

Financial support would also be available to students who are working under the direction of department faculty who have research projects supported by the Center.

Post-doctoral student fellowships will be available for specialists working to advance the research mission of the Center and consolidate.

The creation of the Hydrologic Innovation Center is expected to aid in recruiting of top-notch applicants in the hydrology program at NMT. Exceptional students are key to the success of the Center. The current reputation of the hydrology program would only be bolstered by the Center as a focus of innovative thinking within the hydrologic community. And, the initial theme centered on assessing water balance and sustainability using hydrogeodetic information, along with an opportunity for AI applications, should be appealing to many prospects. Through the enhanced communications of the activities of the Center and active dissemination of research results, more potential applicants will likely be attracted to NMT over other universities.

Graduate students would have opportunities to enhance their education and professional networking through collaboration with scientists at the national laboratories, such as Los Alamos and Sandia, and other organizations. In some instances, these scientists may teach graduate courses through distance learning. Because the Center is designed to bring to campus post-doctoral fellows, rotating research scientists and engineers, and others on sabbatical leave, the Center will afford students a unique educational opportunity to interact with a research community far beyond that of the university faculty.

ORGANIZATION

The Center will be a separate unit within the Research and Development Division. A key position for the Center will be its director. The director of the Center will lead the research direction, facilitate coordination of research efforts, identify and support the needs of researchers, search out major collaborative research opportunities, track budgets and research goals, and be held accountable for the productivity of the Center. As these duties allow, the director could also be involved in teaching, advising graduate students, and conducting independent research. The director will report to the vice president of research.

The director will report to the vice president of research. Center research staff may also have joint appointments with various academic departments and play an active role in teaching. It is anticipated that a dozen or more NMT faculty and NM Bureau of Geology staff would be listed as affiliated with the Center to show the breadth of capabilities and encourage collaboration within NMT across the various organizational units and with other institutions. Some researchers hired by the Center also could be full time research, non-tenured positions. Figure 5 illustrates how the Hantush-Deju Hydrologic Innovation Center fits into the existing organizational structure at NM Tech.

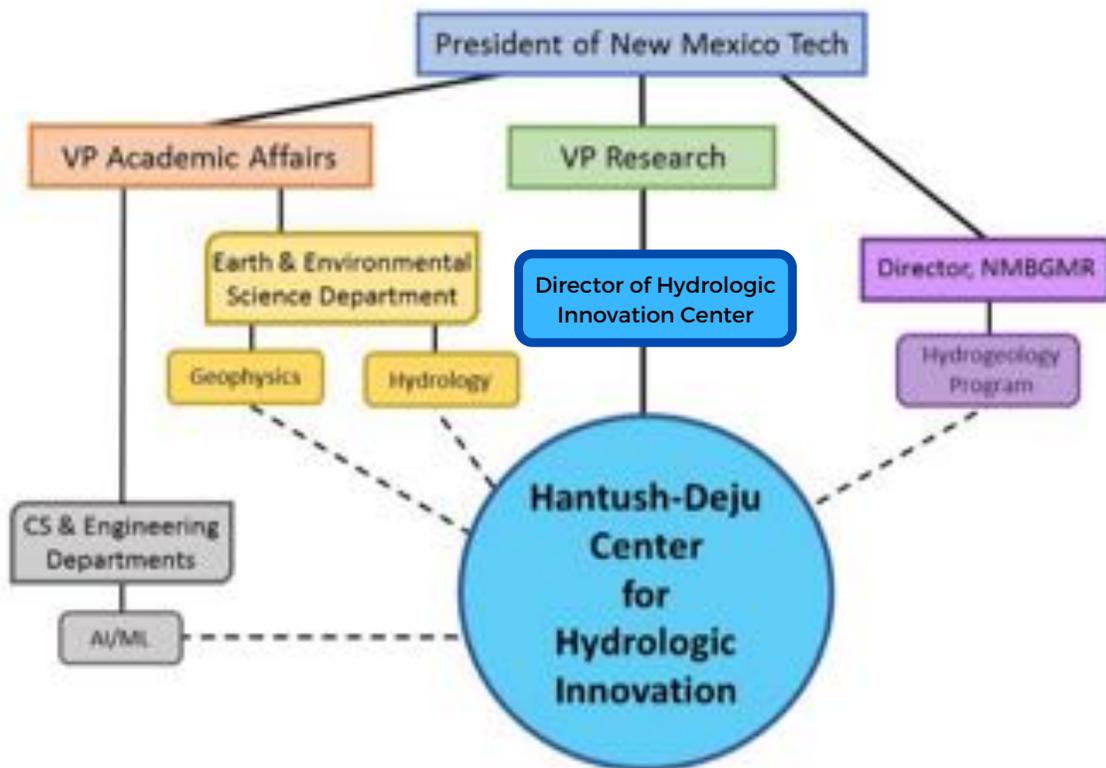


Figure 5: Generalized Organization Chart

Summary of Water Expertise at NMT

Summary of Water Expertise at New Mexico Tech

NMT Unit	Researcher	Water Zone					Expertise				
		Groundwater/Stream Channel	Surface	Surface Water	Wetlands	Watersheds	Remediation	Water Chemistry	Water Treatment	Water Quality	Water Policy
Earth & Environmental Sciences	Dr. Tom Aron		●	●							●
	Dr. Alan Butler	●		●	●						
	Dr. Alexander Eyal					●	●	●			
	Dr. Dan Gochis			●							
	Dr. Harold Harting				●			●			●
	Dr. David Jensen				●				●	●	
	Dr. John Kelly			●							
	Dr. Mark Pallen				●		●				●
	Dr. Fred Pittman				●			●			
	Dr. Alex Sorenson				●		●				●
	Dr. William Schaeffer		●	●	●			●			
	Dr. Steve Smith		●								●
	Dr. John Wilson				●		●				
New Mexico Bureau of Geology & Mineral Research	Richard DeFuria				●		●	●			
	Michael Gherini		●		●		●				
	Thomas Fink		●		●			●	●		
	Dr. John Hartley				●					●	●
	Carol Koring				●		●				
	Walter Mauer		●		●		●				
	Christopher Menden		●		●		●				
	Dr. Nancy Neenan		●	●	●			●		●	
	William Postone	●			●						
	Dr. Geoffrey Rowing				●		●				
	John Seeger				●		●				
	Steve Thomson				●						
National Center & Field Research Institute	Dr. Joseph Lund			●						●	
Petroleum Recovery Research Center	Dr. Joseph Lu			●				●			
Biology	Dr. Benjamin Gould		●	●						●	
	Dr. Tom Wolf				●					●	
Business & Technology Management	Dr. Hanying Wang		●			●					
Civil/Environmental Engineering	Dr. Frank Huang		●					●			
Mechanical Engineering	Dr. Ashok Ghosh		●					●			
Physics	Dr. Jeffrey Fuchs	●									
	Dr. David Raymond	●									

Click to View Department Directory

Click to View Staff Directory

New Mexico Tech Hydrology Program

The Hydrology Program at New Mexico Tech was founded in 1958 as one of the first in the nation, and it has been a leader in groundwater hydrology ever since. This history of groundwater excellence is manifested in the receipt of Meinzer Awards (the top recognition in hydrogeology) by five of our faculty over the years, starting with Mahdi Hantush and continuing to current professor Mark Person.

The early focus of the program, as directed by Hantush and C.E. Jacob, was on developing straightforward, theory-driven methods for measuring the hydraulic properties of aquifers. Their methods form the foundation of well hydraulics and are still applied daily to understand subsurface resources. Their work led to New Mexico becoming a leader in the conjunctive management of groundwater and surface water, thanks to the trust the State Engineer had in Hantush. Former program heads and Meinzer recipients John Wilson and Fred Phillips, who are now emeritus professors, led an expansion of the program in the 1980s. They broke new ground in stochastic hydrology and groundwater dating, while also attracting innovative faculty in soil hydrology, contaminant hydrology, and surface water hydrology.

The program is now housed within the Department of Earth and Environmental Science, where collaborations with geologists, geochemists, and geophysicists abound. As with Hantush, our current faculty (Cadol, Leary, Person, Rinehart, and Schaefer) are focused on the intersection of basic and applied hydrology, and are bringing new perspectives to bear on the foundational challenges of hydrology. Their interdisciplinary research blends hydrologic investigations with surface processes, geophysics, and hydrochemistry, seeking to safely and sustainably manage our water resources into the future.

NM Tech Hydrology Program Heads



Mahdi Hantush (1957-1993)
GSA Meinzer Award, 1993



C.E. Jacob (1903-1979)



Lynn Gelhar (1913-1992)
GSA Meinzer Award, 1997



John L. Wilson (1934-1998)
GSA Meinzer Award, 1996



Fred Phillips (1905-2016)
GSA Meinzer Award, 2001

NMT Research Divisions

Bureau of Geology and Mineral Resources

The New Mexico Bureau of Geology and Mineral Resources is the official state agency responsible by law for original investigations of geology and mineral and water resources in New Mexico. The Bureau investigates, evaluates, and disseminates information on geology, mineral, water, and energy resources, and extractive metallurgy—with emphasis on aiding the discovery and responsible development of nonrenewable resources for the benefit and well-being of the citizens of this state. The director of the Bureau also serves as State Geologist. Although primarily a technical organization providing counsel to state and federal agencies, as well as extractive industries, the Bureau also serves all interested citizens by advancing the understanding of the state's geology and natural resources. Environmental geology and geohydrology are increasingly important parts of the Bureau's service and applied research.

Geophysical Research Center

The state-supported Geophysical Research Center (GRC) supports research in atmospheric physics and chemistry, air quality, seismology, and groundwater hydrology. The Langmuir Laboratory for Atmospheric Research, located in the nearby Magdalena Mountains, is an internationally recognized facility for research in lightning, cloud physics, and water chemistry, and is part of the GRC. Through the GRC, several faculty, graduate students, and undergraduate students are supported in their research.



Petroleum Recovery Research Center (PRRC)

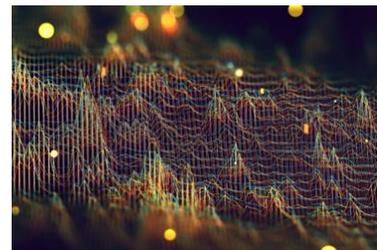


The Petroleum Recovery Research Center (PRRC), the only research center of its kind in New Mexico, is a world-class scientific research organization dedicated to solving problems related to the oil and gas industry. The PRRC's mission is to develop, through theoretical and practical research, improved oil recovery methods to increase oil and natural gas recovery from New Mexico's and the nation's oil and gas reservoirs and to transfer new technology to the industry and to local independents. Interaction between the educational institution and the PRRC's research staff is extensive. New Mexico Tech offers the only petroleum and natural gas engineering degree program in the state, and students have ample opportunity to participate in ongoing front-line research at the PRRC while pursuing their academic training.

NMT Research Divisions

Institute for Complex Additive Systems Analysis

The Institute for Complex Additive Systems Analysis (ICASA) is a research division of NMT. ICASA's mission is to contribute innovative and relevant solutions to national security and critical infrastructure protection problems. This is performed through examination of the control plane of the system – the mechanisms that enable it to dynamically change and respond to its environment. NMT has been consistently recognized by the National Security Agency and Department of Homeland Security as a Center of Academic Excellence in Information Assurance Education since 2001 and a Center of Academic Excellence in Information Assurance Research since 2009. As an academic research institute, ICASA is committed to fostering student excellence. Having employed over 150 student interns, ICASA provides opportunities for the development and refinement of analytical skills against real-world problems.



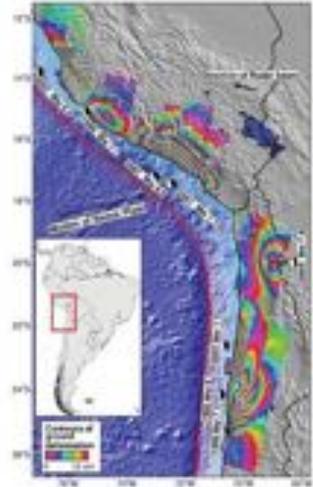
National Cave and Karst Research Institute

The National Cave and Karst Research Institute (NCKRI) facilitates and conducts programs in research, education, data management, and stewardship in all fields of cave and karst science. NCKRI promotes and performs projects of national and international application through dedicated staff and partners, including with programs and departments at NMT. Research projects are diverse, with recent studies focused on geophysical characterization, sinkhole collapse hazard assessment and prevention, geomicrobiological characterization, and hydrogeological evaluations. NCKRI's projects and interests range quite literally from the inner space to outer space. NCKRI scientists also study cave microbes for industrial and medical applications, and work with NASA to better understand where life might be found on other planets.

NMT Research Divisions

IRIS PASSCAL Center

The Incorporated Research Institutions for Seismology (IRIS) Consortium's Portable Array Seismic Studies of the Continental Lithosphere (PASSCAL) Instrument Center is located in New Mexico Tech's Research Park. The Center is primarily supported by the National Science Foundation (NSF) and U.S. Department of Energy, and is operated by Tech professional staff in coordination with the Department of Earth & Environmental Science Geophysics Program and the Geophysical Research Center.



Langmuir Laboratory for Atmospheric Research

Langmuir Laboratory operates one of only four lightning triggering facilities in the world. Triggered lightning is used to study basic lightning physics, as well as for engineering and testing purposes. The facility also has a restricted airspace (R-5113) that is dedicated for the laboratory's use in the summer months. The airspace allows us to fly balloons, aircraft, rockets and UAVs up to 45,000 feet altitude while maintaining safe separation from other air traffic. The Langmuir Research Site consists of 33,000 acres of Cibola National Forest land which surrounds Langmuir Laboratory.

Langmuir Laboratory, built by New Mexico Tech in 1963, is located at an elevation of 3,240 m (10,630 ft) in the Magdalena Mountains, 27 km southwest of the main campus. The laboratory was named in honor of Dr. Irving Langmuir, Nobel Prize winner, who participated in numerous experiments at Tech related to cloud physics after the discovery of cloud seeding in 1946.



NMT Research Divisions

Playas Training and Research Center (PTRC)

The Playas Research and Training Center (PRTC), located in the far southwestern New Mexico, is a “real- world” research and training center focused on missions related to homeland protection, national security, and military readiness. PRTC is used for simulations of urban warfare, emergency preparedness drills, antiterrorism training, military operations training in urban terrain, hostage negotiation training, Small Unmanned Aircraft Systems (sUAS) applications, and other law enforcement and defense initiatives.



Other NMT-Affiliated Research Divisions

- **Energetic Materials Research and Testing Center (EMRTC)**
- **Magdalena Ridge Observatory**
- **National Radio Astronomy Observatory (NRAO)**
- **NM Cyber Security Center for Excellence**
- **NM Homeland Security Center**
- **NMT Seismological Observatory**

About New Mexico Tech

Our Mission

New Mexico Tech serves the state and beyond through education, research, and service, focused in science, technology, engineering, and mathematics. Involved faculty and research staff educate a diverse student body in rigorous and collaborative programs, preparing scientists and engineers for the future. Our innovative and interdisciplinary research expands the reach of humanity's knowledge and capabilities. Researchers, faculty, and students work together to solve real world problems. Our economic development and technology transfer benefit the economy of the state and create opportunities for success. We serve the public through applied research, professional development, and teacher education, benefitting the people of New Mexico.

Vision

New Mexico Tech aspires to be a preeminent community of scholars dedicated to research, education, and innovation - advancing science, technology, engineering, and mathematics - to meet the challenges of tomorrow. We will drive innovation and education through transdisciplinary collaborations.

Values

- Excellence
- Integrity
- Research
- Creativity
- Collegiality & Collaboration
- Innovation, Economic Prosperity & Technological Development
- Integrated Planning & Decision Making

NMT by the Numbers

2021-2022



\$98 Million
in Award Funding



160
Awards



366
Proposals



4
NSF Career
Awards



120
Tenure-Track
Faculty



Over
\$50 Million
in Award Expenditures



1200
Undergraduates



400
Graduate Students



\$3.9 Million
in Student Salary
Expenditures

About New Mexico Tech

Campus & History

The New Mexico Institute of Mining and Technology, also known as New Mexico Tech (NMT) is an federally-designated Hispanic-Serving Institution and state university in Socorro in the Rio Grande Valley, New Mexico, founded in 1889 as the New Mexico School of Mines.

The New Mexico School of Mines (NMSM) proudly opened its doors on Sept. 5, 1893, with one building, two professors, and seven students. Courses offered included chemistry and metallurgy.

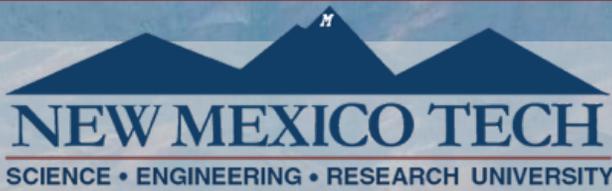
During 1930s, NMSM enrollment increased as more people sought a college education during the Depression. Graduating classes now numbered in the dozens, rather than the handfuls. Petroleum engineering was added to the curriculum and quickly acquired more students than mining engineering. The college's president, Edgar Wells, was instrumental in obtaining funds from federal programs such as the WPA to increase the number of buildings on campus. Several of the campus' classic mission-style buildings with red tiled roofs date from this period.

In another landmark, the School of Mines had its first woman graduate, Irene Ryan, in 1939. The college had never had a "men only" policy and never had a formal date when it "went coed," but in the world of the 1890s, women didn't attend a college that called itself a "school of mines." By the 1930s, things had changed, and by the end of the decade, mining companies were anxious to hire female (non-draftable) mining engineers.



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City of Socorro & Surrounding Areas



New Mexico Tech is located in **Socorro**, in the scenic Rio Grande River Valley of central New Mexico, 75 miles south of Albuquerque and its many attractions, and 139 miles south of Santa Fe. Nearby mountains and desert canyons provide opportunities for excellent hiking, climbing, horseback riding, target shooting, and mountain biking. The Bosque del Apache National Wildlife Refuge, located just south of Socorro along a major north-south flyway, offers some of the best birding in the USA.

NM Tech is a federally-designated Hispanic Serving Institution, and roughly 1/3 of our faculty and majors are female. The department and campus is small and collegial with roughly 1200 undergraduates and 400 graduate students in science and engineering. Socorro is a town of 9000 people and it provides a low cost of living (median home price < 50% of US average) and surprising amenities for a town of its size. NMT supports work-life balance via extended tenure clocks for growing families and on-campus childcare.

New Mexico is home to Sandia National Laboratories, Los Alamos National Laboratory, Kirtland Air Force Base, Holloman Air Force Base, and White Sands Missile Range.





NM COUNTIES & ATTRACTIONS

Los Alamos National Laboratory



Angel Fire Ski Resort



Rio Grande Gorge



Sandia National Laboratory



NM State Capitol



Albuquerque Balloon Fiesta



International UFO Museum



Playas Training & Research Center



Bosque del Apache Wildlife Refuge

Carlsbad Caverns National Park



Very Large Array



Gila Cliff Dwellings National Monument



White Sands National Monument

