

New Mexico Institute of Mining and Technology

**Director, National Hydrologic
Innovation Center**

Position Specification





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Position Specification

Role Specifics	
Position	Director
Company	Hantush-Deju National Hydrological Innovation Center
Location	Socorro, NM
Reporting Relationship	Vice President, Research
Website	https://www.nmt.edu https://www.nmt.edu/research/deju/index.php

About New Mexico Tech

In 1889, at a population of about 4500, Socorro was one of the largest towns in New Mexico. The Territorial Legislature, wanting to boost New Mexico's economy, decided to found a School of Mines to train young mining engineers, and Socorro was the ideal location. Silver and lead ores taken from the nearby Magdalena Mountains were processed at the smelter owned by German immigrant Gustav Billings, and the new School of Mines would allow young mining engineers to train near the eventual site of their work.

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. In 1927, a new division was added to the NMSM, called the New Mexico Bureau of Mines and Mineral Resources. Functioning as the state geologic survey, the Bureau's job was to explore and map the resources of the state and make the information available to mining businesses and the general public. Nearly 100 years later, the New Mexico Bureau of Geology and Mineral Resources (renamed) continues to function as the state geologic survey and research group, with a mission that includes the investigation of geologic hazards, such as landslide and earthquake hazards, and the analysis of water resources. In 1946, the school appointed a new president, E. J. Workman, who placed an emphasis on scientific research across the entire institution. The institution continued steady growth in enrollment, curricular offerings, and faculty/staff and ultimately renamed in 1951 to New Mexico Institute of Mining and Technology (New Mexico Tech).

New Mexico Tech serves the state and beyond through education, research, and service, focused in science, technology, engineering, entrepreneurship, 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 innovation 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 transfers 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.

About the National Hydrologic Innovation Center

VISION

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.

Given the Center's vision and close partnership with the hydrology program in the Earth and Environmental Science Department, the hydrology faculty at NMT seek to further enhance the reputation of the institution 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 students from throughout the world.

CREATION

The late Mahdi Hantush co-founded the hydrology program at NMT in 1958. 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.

As a graduate of New Mexico Tech, Dr. Raul Deju offered to provide a generous endowment to the Institute in his estate plan. Dr. Deju's private funding is essential to ultimately achieving the vision of the Hydrologic Research Center and supports the hiring of key research positions, laboratories, and equipment to carry out the research objectives of the center.

PURPOSE

The Hantush-Deju Center for Hydrologic Innovation 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 focus on innovative concepts or methods in the hydrological sciences to develop them into tools for understanding and managing water resources. The Center will balance emphasis on external innovations with the research strengths of the faculty and staff of the Institute. 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.

The initial area of emphasis for the Center will be developing hydrogeodetic methods to help us better understand changes in the fluxes between atmospheric, soil, vadose, and groundwater reservoirs at scales ranging from a well field to the globe. This innovative



research to evaluate water balance components utilizes land-surface geodesy based on GPS networks and InSAR, gravity measurements, remote sensing of water fluxes, and potentially other methods to evaluate changes in water storage. Some 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.

Position Overview

New Mexico Tech is seeking a dynamic and entrepreneurial leader to serve as the Director of the newly created Hantush-Deju National Hydrological Innovation Center. 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 long-term 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. The Center and its network of collaborators will achieve innovative and practical advancements in hydrology using tools such as, 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.

Key responsibilities include the following:

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 and research goals and implement plans to grow 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. The Director will also oversee the development of proposals, especially large-scale collaborative ones, and develop a range of funding request opportunities, such as 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 promoting cutting-edge research and identifying 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 worldwide.

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 encouraging staff to teach a limited number of classes in order to train graduate students for research assistantships.

Diversity, Equity, and Inclusion

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



Required Qualifications and Experience

The Director must be a passionate advocate for the Center's mission, excited to build the organization and direct the day-to-day operations of the organization, and a strategic leader to set and subsequently execute the Center's strategy. They will be expected to create their own research and development program that enhances NMT's current programs and aligns with its mission. NMT seeks a credible, proven, innovative, and dedicated leader to provide long-term innovative leadership to the organization.

- Ten plus years of working experience (post terminal degree) in science or engineering in any one of the fields of hydrology, hydrometeorology, hydro-climatology, and water resources engineering, or closely aligned discipline.
- Track record of relationship development across key leaders and external stakeholders in the water resources industry and/or federal research groups.
- Robust experience and abilities organizing and managing contract research and developing partnerships with government, philanthropy, and private industry.
- Exceptional communication skills (both verbal and written) with a proven track record of publications in refereed journals in research and applications of hydrology, hydrometeorology, and water resources engineering.
- Significant experience serving as an effective internal and external spokesperson. Demonstrated experience and familiarity interacting with top level administrators and decision makers from the local, state, or federal government.
- Ability to clearly communicate the Center's vision and dedication to making a difference in the field of hydrology, hydrometeorology, and water resources engineering.
- Robust track record of receiving funded proposals in the fields relevant to the Center.
- Clear appreciation of, and interest in, continuing and enhancing applied training and professional development programs for the effective transfer of science and advanced technologies to practice.
- Track record in working with and leading multidisciplinary teams in research and implementation.
- Experience and willingness to work cross-functionally with diverse thematic faculty members, engineers, technical staff, and managers.
- Aspirations for professional growth and advancement aligned with NMT's mission.
- Ability to travel as part of the role.

Key Relationships

- Center Advisory Board
- Hydrology Faculty and Staff Members
- Other Institutional Faculty and Research Staff
- Technical Staff and Officers



Education

Ph.D., or other doctorate level equivalent in any area of study, or in lieu of Ph.D., a Master's degree with exceptional relevant experience.

Apply

Please send your resume to:

NMTDirector@kornferry.com

New Mexico Institute of Mining & Technology/New Mexico Tech is committed to equal employment opportunity and affirmative action in all of its personnel policies and procedures. New Mexico Tech is firmly committed to a policy of nondiscrimination on the basis of race, color, sex, religion, ancestry, national origin, physical or mental disability, Vietnam Era or veteran status. Any evidence of actions or procedures inconsistent with this policy should be brought to the attention of the Office of Affirmative Action and Compliance.

Equal opportunity refers to the right of every person to be judged on the basis of relevant skills, experience, and training; free from judgment on the basis of irrelevant criteria such as sex, age, ethnic background, handicap, disability or veteran status.

To help ensure nondiscriminatory practices, New Mexico Tech has a Director of Affirmative, Action and Compliance who reports directly to the President of the Institute. Achieving equal opportunity requires the active cooperation and awareness of every person with supervisory responsibility. It is the policy of New Mexico Tech to make every effort to find highly qualified applicants of both genders and various ethnic groups. It is also the Institute's policy to provide advancement opportunities for these employees whenever possible, and to take affirmative action with regards to recruitment and employment of qualified women and minorities.

In the final analysis, meeting the letter of the law and the strict requirement of our policies will not be enough. We will be evaluated and we should evaluate ourselves by our actual success in achieving our goals. New Mexico Tech will continue to analyze its personnel actions to assure compliance with its affirmative action program.



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