

Recent Research Projects



McMath-Pierce Solar telescope is located on Kitt Peak, outside of Tucson, Arizona



National Solar Observatory's facilities in Sacramento Peak, New Mexico

NMSU Wins \$1.2 M for Joint Research Project with the National Solar Observatory and the Air Force Research Laboratory's Center for Excellence in Space

Weather *by Hamid M. Rad*

NMSU has been awarded NSF funding to enhance the quality and quantity of New Mexico State University graduate students studying solar physics and space weather. This funding was awarded by NSF's Partnerships in Astronomy & Astrophysics Research and Education (PAARE) program which will provide funding for up to 4 years. This multi-disciplinary project involves NMSU faculty from the Departments of Astronomy, Physics, Computer Science, Electrical and Computer Engineering, and Mechanical and Aerospace Engineering and researchers located at the National Solar Observatory (NSO) and the Air Force Research Laboratory's Center for Excellence in Space Weather (AFRL).

Work will focus on four current research areas,

1. Understanding the origins and the prediction of solar and stellar activity and the impact of energetic solar eruptions on the Earth,
2. The construction of higher order adaptive optics systems using the expertise of NMSU engineering faculty and instrument specialists at the NSO and AFRL,
3. Bringing the supercomputer capabilities of the New Mexico Computing Applications Center to bear on difficult problems in the solar interior and chromosphere and on the analysis of the massive datasets expected from the new NSO Advanced Technology Solar Telescope, and
4. Creating a nationally competitive NMSU graduate degree program in space physics and space weather.

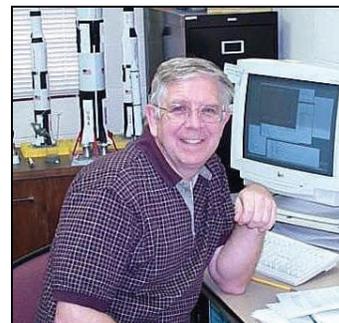
Rated as the top 2009 PAARE proposal, its NSF review noted that the above targeted research areas "combine existing complementary strengths of the participating organizations to address issues that can only be addressed by bringing these strengths together."

Student participants will be provided with educational assistance beginning with their acceptance at NMSU and culminating in their transition into the professoriate. The student pipeline is modeled upon best practices from existing successful graduate programs and NMSU. World-class scientists and engineers and the NSO and AFRL will serve as mentors and students will have access to their state-of-the-art instrumentation. Once fully operational, this program is expected to produce four to five Ph.D. graduates per year, two of which will be under-represented minorities.

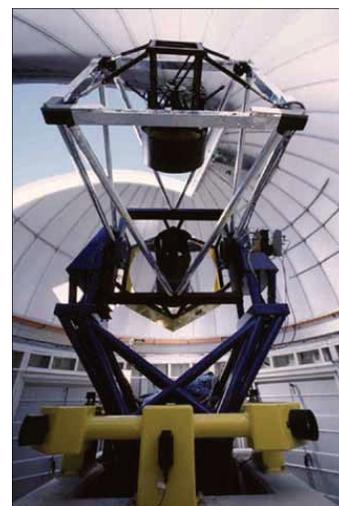
The program will support up to 15 graduate student participants by its third year of operation.

"As a minority-serving institution and one of our nation's leading producers of Hispanic degrees, NMSU is keenly interested in increasing the number of underrepresented minority ...

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Dr. Bernhardt McNamara, NMSU's professor of Astronomy and principal investigator of the project.



NMSU's 1m Altaz telescope located at the Apache Point Observatory in Sunspot, New Mexico.