

Posted: July 18, 2023



REVISED 7/18/23
POSITION ANNOUNCEMENT

TITLE: SENIOR POSTDOCTORAL- INSTRUMENTATION

DEPT: MROI

REG

TEMP

FULL TIME

PART TIME

STARTING RATE or SALARY RANGE \$60,000-\$65,000

Employees being promoted to a higher classified position receive the minimum for the position or a pay rate adjustment of 8% whichever is greater.

All regular positions also entitle the employee to several benefits including health, dental, vision, life insurance, and retirement which is largely paid by New Mexico Tech for the employee and dependents.

INTERNAL POSTING THROUGH: Concurrent* CONSIDERATION WILL BE GIVEN FIRST TO TEMPORARY AND REGULAR TECH EMPLOYEES WHO APPLY WITHIN THE 7 DAY INTERNAL POSTING. APPLICATIONS RECEIVED AFTER THE 7 DAY POSTING MARGIN WILL BE CONSIDERED WITH OTHER OUTSIDE APPLICANTS.

JOB DUTIES:

New Mexico Tech is currently constructing the Magdalena Ridge Observatory Interferometer (MROI), an array of astronomical telescopes that will make images at angular resolutions 50 times better than the James Webb Space Telescope. The postholder will participate the development, installation, alignment and commissioning of the opto-mechanical subsystems of the MROI. These include the telescopes, beam combiners, alignment systems, beam relay optical components, and the back-end detector systems. They will also participate in the overall commissioning of the MROI to realize first fringes and first science observations. Their activities will include designing, procuring, assembling, and aligning opto-mechanical hardware, interfacing hardware to software, testing subsystem performance, debugging opto-mechanical subsystems, and participating in the formal performance validation of the MROI and executing first science observations.

JOB FUNCTIONS:

Job Function & Percent of time:

Designing, assembling, aligning, and verifying the performance of opto-mechanical systems	30%
Assisting in the development of the software needed to control and operate these subsystems	30%
Supporting the MROI deployment and commissioning activities on the Magdalena Ridge	20%
Reporting (orally and in writing) on software to stakeholders and sponsors	10%
Supporting outreach, development, and science-related activities	5%
Other duties as assigned	5%

REQUIRED QUALIFICATIONS:

Ph.D. or other doctorate level equivalent. Area of study: Optical instrumentation for Physics, Astronomy, Engineering or Biomedical applications. Three or more years of hand-on experience of optical instrument design & development. Experience of assembly, integration and verification of opto-mechanical hardware. Expertise in Zemax, Code V or similar optical design software. Ability to drive and obtain a DDC for driving NMT vehicles.

DESIRED QUALIFICATIONS:

Knowledge of software/hardware interfacing. Knowledge of digital and/or analog electronics for sensing and instrument control. Experience in writing software for data analysis or instrument control in Python, C, or Java.

JOB LOCATION:

The job will primarily be located at the Research Office Building and the Workman lab on the NMT campus. There will be a need for occasional visits (a few times a week) to the South Baldy MROI facilities at 10,500 ft to install and test optomechanical. Night-time commissioning sessions may be required several times per month when new MROI systems are installed at the Magdalena Ridge.

Apply to: nmtjobapps@npe.nmt.edu OR NMT/ HR 801 Leroy Place Box 105, Socorro, NM 87801