The Low Temperature Condensed Matter Physics Group led by Professor V. F. Mitrović in the Department of Physics at Brown University is seeking a Postdoctoral Research Associate to perform experimental research in the area of ultra low temperature transport, magnetic properties, and magnetic resonance techniques. The objectives are to develop novel ways for detection of Bosonic dark matter. This project will be carried out in collaboration with Experimental High Energy Physics group in Argonne National Laboratory led by Dr. Marcel Demarteau.

The researcher will work on implementing a novel technique for the detection of signals from either nuclear spins or electronic spins of thin films using the novel technique of Magnetic Tunneling Junctions (MTJ) as detector. The goal is to establish the technology of MTJ arrays to search for axions. The project involves running of the dilution refrigerator, development of a special cold finger to allow for rf excitations and the enclosed sample cell, read-out of the MTJ sensors, possible MTJ and device fabrication, and computer modeling and simulation. The candidate must have a PhD degree in physics and an excellent record in scientific publication and academic performance. The candidate should have strong research experience in low temperature physics, especially, dilution refrigeration techniques. Working knowledge of cryogenic systems and low-noise measurements is required. Demonstrated experience with the development and application of superconducting devices, Quantum Sensor development and RF readout is an advantage.

Candidates with excellent technical skills, communication and writing skills and a strong motivation in R&D are encouraged to apply. The position is available immediately, with initial appointment for one year and possibility of extension. Application materials including a curriculum vita, a statement of past research, and three letters of recommendation should be submitted electronically to https://apply.interfolio.com/52806. Applications received by November 1, 2018 will receive full consideration.

Brown University is committed to fostering a diverse and inclusive academic global community; as an EEO/AA employer, Brown considers applicants for employment without regard to, and does not discriminate on the basis of gender, race, protected veteran status, disability, or any other legally protected status.