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managed by Brookhaven Science Associates
for the U.S. Department of Energy

Date: February 7, 2024

To: Hong Ma

From: Michael Kirby

Subject: Request to open Postdoctoral Associate Position

Memo

We request to open a Postdoctoral Associate position in the NPPS Group. The position is funded by two components, 1) the NPPS carryover of funds from the DOE FOA grant received in 2021 “Essential Computing and Software Development for DUNE” with a duration through April 30, 2025 which has funding for the burdened cost of a postdoc at 1.2 FTE-years across two years; and 2) short term FY24 LDRD-C funds which would fund a proof-of-concept study for prompt processing at 0.25 FTE-years for May – Sep, 2024. Additionally, there is roughly 0.55 FTE-years over two years of research funds available from EDG to incorporate scientific research on DUNE related topics. It is expected that this effort will lead to future responsibilities and funding as part of the DUNE-US S&C Operations program. The DOE FOA funds and LDRD funds are administered by me within NPPS.

This position is a replacement for the transition of Lino Gerlach who has moved from DUNE Computing to another task within NPPS, and an expansion of DUNE activities leading to operational responsibilities once the DUNE S&C Operations program is started in May 2025. This postdoc will continue the work program for the DUNE Essential Computing on development and implementation of database solutions for DUNE Offline Computing. Additionally, the postdoc will start work on development of payload and database integration for the DUNE prompt processing in coordination with colleagues from NPPS, SDCC, and EDG. We plan to study a proof-of-concept prompt processing system that will be provide the infrastructure and payloads necessary to provide noise filtering, signal processing, and data reduction for the DUNE raw data streams. This infrastructure will provide a platform for Offline Data Quality Monitoring and mechanisms for input into run quality and conditions databases.

We are seeking a physicist with strong software and distributed computing skills, an interest in prompt algorithmic development, and the impact it will have on the physics capability of DUNE. The new hire is expected to take a leading role in developing software and computing for DUNE and beyond, and to contribute to physics research at the intensity frontier at BNL. We seek candidates with substantial existing experience in HEP software development, particularly databases, and liquid argon TPC reconstruction. Experience in neutrino physics analysis will be an asset. The work will be supervised by Michael Kirby, and guided by the deliverables DUNE Essential Computing Grant and the Prompt Processing program development proposal.

Consistent with the mandate of NPPS, the position is likely to involve extending effort and expertise to multiple experiments over time.

The duration of the position is two years, consistent with the shorter of the two funding projects. If the person does well, we will make every effort to extend them, either on an extension of this project or elsewhere in the NPPS program. Preferred start date is as soon as possible.

The hires may be based at BNL or fully remote within the US. Domestic and international travel is expected.

The job description is given in the attached document as required by BNL HR.

Expected Starting Date: May 1, 2024


Type of Appointment: Regular Full Time

New Position: Yes

Project Activity: DUNE Software and Computing databases and Prompt Processing development, funded by components as described

Request advertisement be placed: BNL HR webpage; Inspire; diversity sites

Approvals:  Date: 02-23-24
Jim Desmond, Business Manager, Physics Department

 Date: 3-5-2024
Hong Ma, Chair, Physics Department