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Office of Science
Washington, DC 20585

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Dr. Robert Edwards
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Dear Dr. Herner and Dr. Edwards:

The Department of Energy (DOE) Office of Nuclear Physics (NP) plans to conduct a Review of the FY25-FY29 Five-year Plan for the Nuclear Physics Lattice QCD Computing Initiative (NP LQCD Initiative), in conjunction with the Office of High Energy Physics (HEP) Review of the Lattice Quantum Chromodynamics Computing Program, on May 29-30, 2024. The NP LQCD Initiative funds the LQCD cluster program at Thomas Jefferson National Accelerator Facility (TJNAF or JLAB) as part of the USQCD LQCD cluster program. It follows the same allocation process within a common collaboration and governance structure. A review panel of experts in high energy physics, nuclear physics, project management and computer science is being convened for this task.

Dr. Paul Sorensen and Mr. Keith Jankowski are the NP representatives for this review and will coordinate with Dr. John Kogut of HEP to have a joint LQCD-ext III and NP LQCD Initiative review.

Each panel member will evaluate background material on the LQCD research program, including those for NP LQCD Initiative, and attend the presentations at the May 29-30, 2024 review. The focus of the 2024 NP LQCD Initiative Five-Year Plan Review will be on understanding:

- The significance and relevance of the NP LQCD Initiative, with an emphasis on its impact on the experimental program of the DOE Offices of High Energy and Nuclear Physics.
- The merits of updating the NP LQCD Initiative research program, including the construction and operation of dedicated hardware.
- The feasibility and reasonableness of the FY2025-2029 5-year plan for NP LQCD Initiative, including the following 4 areas of the 5-year plan:
 - the technical design and scope;

- the proposed budget;
- the scientific and technical milestones; and
- the proposed management structure.

Since the NP LQCD Initiative provides computer cycles that are distributed by the US Lattice Quantum Chromodynamics (USQCD) collaboration, the panel members will also consider:

- The effectiveness of USQCD in allocating the NP LQCD Initiative resources to its community of lattice theorists, the scientific impact of this research on the entire HEP and NP communities and the status, operational procedures, and related activities of the USQCD collaboration itself.

The 2 days of the review will be an in-person/hybrid review on May 29-30 in the Germantown area. The review will consist of presentations, executive sessions, and preliminary report writing. A brief close-out will conclude the review. Preliminary findings, comments, and recommendations will be presented at the close-out.

Each panel member will be asked to review those aspects of the LQCD project listed above which are within their scope of expertise and contribute his/her findings to the closeout and final review reports. That report will have recommendations for your consideration that you and USQCD should respond to in a timely fashion.

Please set up a web site for the review with relevant background information on NP LQCD Initiative and distribute relevant background and research materials to the panel at least 2 weeks prior to the review.

We greatly appreciate your willingness to assist us in this review. We look forward to a very informative and stimulating review.

Sincerely,

Timothy J. Hallman
Associate Director of the Office of Science
for Nuclear Physics