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Subject: Support letter for **Bailing Ma** to attend the Quantum Computing Boot Camp (QCBC23)

Dear Organizing Committee,

Bailing Ma has applied to attend the 2023 Quantum Computing Boot Camp (QCBC23) that you are organizing, and I am writing to provide my strong support of Bailing's application. Bailing received her Ph.D. in 2022 from North Carolina State University under the supervision of Prof. Chueng-Ryong Ji, and since September 2022 Bailing has been a postdoc with the Physics Division Theory Group at Argonne National Laboratory.

Bailing's primary research is currently in QCD and hadron structure, with her Ph.D. titled *"The Method of Interpolation between Light-Front Quantization and Equal-Time Quantization and its Application to Quantum Chromodynamics in One-Plus-One Dimensions"* and at Argonne Bailing has undertaken a project to calculate the GPDs of light nuclei using an effective model for nuclei at the quark and gluon level.

Since starting at Argonne, Bailing has expressed a desire to become involved in a project related to quantum computing and quantum information science. As such, I am involving Bailing in the DOE funded project *"A Pathfinder for Nuclear Physics Quantum Simulation"* for which I am PI. This project also contains as a sub-project the Early Career Research Project of Michael Bishof called *"A neutral-atom quantum simulator for nuclear physics"*. The big picture goal for the Pathfinder project is to build a neutral atom quantum simulator specifically designed to address important open problems in nuclear physics. The raison d'être is to simulate quark-level effective theories of QCD, as opposed to a gauge theory, so that we can move more quickly to the study of real-world problems of relevance to nuclear and hadron physics. This is a complementary approach, which will guide and inform subsequent simulations of QCD-like gauge theories.

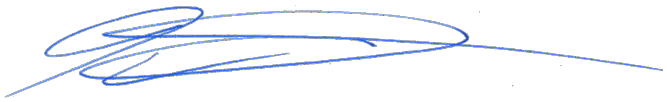
Attending QCBC23 will greatly assist Bailing develop the skills and background knowledge to begin contributing to our Pathfinder project, and help deliver on the milestones for this DOE funded project.

Bailing has great potential to be an outstanding scientist in QCD/hadron structure and I am sure this will translate to QIS. Bailing is hardworking, intelligent, self-motivated and a great collaborator, and in my view an ideal participant for this boot camp. Given her strengths and interests it is rather possible that Bailing will develop her research at the intersection of NP and QIS, and thereby help ensure the future success of the NP QIS Initiative.

In conclusion, I highly recommend Bailing for the QCBC23 and hope that you will be able to

accept her into the program. Please do not hesitate to contact me if you have any questions or would like further information.

Yours sincerely,



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