



MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DEPARTMENT OF PHYSICS
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April 27, 2023

Dear Colleagues,

It is my great pleasure to recommend Sokratis Trifinopoulos for admission to the 2023 Quantum Computing Boot Camp (QCBC). Sokratis is a postdoc in the MIT Center for Theoretical Physics (CTP), and he is also affiliated with the NSF Institute for Artificial Intelligence and Fundamental Interactions (IAIFI). In 2022, Sokratis received a Postdoc.Mobility Fellowship from the Swiss National Science Foundation to come to MIT, and during his time thus far at the CTP/IAIFI, he has worked on a number of exciting projects at the intersection of flavor physics, collider physics, and machine learning.

For the next phase of his career, Sokratis wants to venture into the world of quantum computing for nuclear/particle physics. I am a member of the Co-Design Center for Quantum Advantage (C2QA), one of the DOE Quantum Information Science Research Centers. As one component of my research, I have explored the use of quantum algorithms to accelerate the processing of data from collider experiments. Sokratis is interested to join this effort, but first, he needs to learn about the fundamentals of quantum computing. In particular, one of the challenges that I have encountered in my research is that naive quantum advantages are overwhelmed by the computational cost of loading classical data onto a quantum device. Sokratis and I have some ideas for how to potentially overcome this problem, but to see whether it is feasible in practice will require Sokratis to gain more foundational knowledge about quantum computing.

The 2023 QCBC is a fantastic opportunity for Sokratis to grow his skill set and contribute to the emerging field of quantum computing for nuclear/particle physics. Sokratis is highly interactive and inquisitive, and I am sure he will be a dynamic addition to your program. I give Sokratis my strongest recommendation for 2023 QCBC.

Sincerely,

A handwritten signature in black ink, appearing to read 'J Thaler', with a stylized, cursive script.

Jesse Thaler
Professor of Physics, MIT
Director, IAIFI