
Shivesh Pathak

Cover Letter, 2021

Dear Professors of the John Hopkins University IQM,

I am writing to apply for the Condensed Matter Theory Postdoctoral Fellow position. I am a graduate student at the University of Illinois at Urbana-Champaign and plan to graduate in August of 2021 working with my advisor Lucas K. Wagner. My PhD thesis is entitled "Accurate low-energy states and interacting effective models using ab initio quantum Monte Carlo."

I am interested in this postdoctoral position because I have the skills required for this position and my research goals will contribute positively to the Institute's research goals. As mentioned in my research statement and CV, I have a very strong background in computational and theoretical condensed matter physics, in particular for simulation and model development for strongly interacting quantum systems. I have experience in building models and excited states for graphene-based systems, and in particular the strongly correlated twisted bilayer graphene system. However, my research interests extend beyond these graphene systems as outlined in my future plans, and I can integrate well with the broader goal of the institute in furthering our understanding of strongly correlated electronic systems. I also have experience in large, multi-research-group collaborations, with the QMC-HAMM collaboration, and will be able to extend my experience in effective communication with broad technical audiences to IQM.

I believe that this postdoctoral fellow position is an excellent opportunity for me to pursue my research goals, and I know that my research goals and expertise will help the institute accomplish their goals. I look forward to speaking with all of you in the future, and I appreciate your consideration of my application.

Shivesh Pathak