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Date : 10.03.2023

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### **To whom it may concern**

This letter is to support the application of Ms. Sangeeta for the joint PhD program between the University of Manchester and IIT Kharagpur. I am quite happy to see such a program that give PhD students a better outlook and experience of working in two word-class institutions. I was a course teacher for Sangeeta during her master's in physics at IIT Gandhinagar. Sangeeta is academically brilliant, a patient listener, punctual in the lectures and asks brilliant questions. Unlike many other students, she constantly engages the teacher during lectures, which is indeed a very positive thing to be noted. In my opinion, her knowledge in the area of 2D materials and condensed matter physics, in general, is much more than the grades she obtained.

The course 'Physics of two-dimensional materials' has inspired her to pursue a research career in this field. Her interest and excitement for two-dimensional materials ended up offering a summer internship though it was highly competitive. She has been selected from the 400 applications that I received for the summer internship. During the internship, I had the opportunity to look at her research aptitude. Sangeeta is very systematic in her approach towards problems, and has the ability to progress research by conducting literature survey. Looking at the research potential, I encouraged Sangeeta to apply for IIT Gandhinagar Sabarmati Bridge fellowship, which is a very prestigious fellowship given to highly talented students of MSc and B.Tech. students of IIT Gandhinagar. For the fellowship, Sangeeta has written a proposal by herself. For this, she has looked at several problems in the area of membranes and observed that fouling is a big issue in this area, and any solution would be highly rewarding both scientifically and technologically. The fellowship selection is based on the written proposal followed by an interview and the success in getting this fellowship indicates her ability to write and communicate high quality science to experts. During the fellowship, Sangeeta has transformed into a mature researcher with independent execution abilities. Sangeeta established independently a custom electrochemical 3-electrode system, which is very useful for many important experiments. As a beginner, establishing a setup from scratch is something we don't usually see. She has been doing great research with constant improvements in the results. With her constant and continuous effort, significant results are obtained, which will be published soon.

Sangeeta has trained on several aspects of experiments related to membrane fabrication, electrochemical set up, PDMS based microfluidics, ion transport, contact angle, gravimetry and X-ray diffraction measurement, which would be very handy while doing PhD. I observe that Sangeeta's research skills are very relevant to the areas advertised in the PhD call.

Sangeeta stays up to date with the latest research in her area, that was the reason as to why she could pick a very relevant topic. Sangeeta wants to do a Ph.D. in 2D materials, and the Sabarmati fellowship is immensely helping her to achieve that dream.

In summary, Sangeeta has all the qualities required for a good researcher. I strongly support Sangeeta's PhD application.

Yours sincerely,

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