



To Whom It May Concern

13 March 2023

I am pleased to write this letter of recommendation in support of Sangeeta's application for the PhD programme jointly offered by IIT Kharagpur and the University of Manchester. I have known Sangeeta for about 12 months as a student in the elective course ES639 Lasers that I taught in Semester 2, 2020-2021. The course was conducted partly in the online mode due to Covid restrictions and then switched to the in-person mode towards the middle of the semester. It was heartening to see the level of enthusiasm displayed by Sangeeta and the other students. Sangeeta scored the second highest marks that earned her an A minus grade (9/10).

Sangeeta has strong grasp of the fundamentals, which enables her to develop excellent conceptual clarity. She is comfortable with the mathematical treatment of light, interference, diffraction, resonance and other such classical phenomena. She would ask probing questions during the lectures and displayed great interest in the experimental work that the students did with precisely tunable semiconductor lasers in my research lab. They characterized the intensity modulation and phase modulation behaviour of these lasers for spectroscopic applications. My experience of teaching this and other photonics courses tells me that a student's level of interest in laboratory work is often a reliable indicator of her interest in research. The multiple written assignments that she submitted exploring different aspects of photonics clearly demonstrated her patience and ability to sift through a large amount of material, identify the relevant material, understand it and then write it in her own words. Her writing is interesting, informative and lucid. This is a rare trait among students that we come across, and an excellent indicator of her potential for undertaking serious research. She would make an excellent teaching assistant. She is naturally helpful and can communicate clearly and effectively.

Sangeeta has been working in the field of 2D materials and wants to undertake research in this area. She completed her MSc thesis under the guidance of an excellent faculty member in physics. She then secured the competitive Sabarmati Bridge Fellowship of IITGN that selects those students who show clear promise for research. I have had long discussions with Sangeeta about what a PhD involves and what it takes to succeed. She understands the challenges and is excited by the prospects of this tie-up between IIT Kharagpur and the University of Manchester. She is a level-headed person and is not easily carried away by praise or short-term successes.

In summary, I strongly recommend Sangeeta for a place in the PhD programme jointly offered by IIT Kharagpur and the University of Manchester with full financial support. I wish her all the best and hope to see her thrive.

Sincerely

Arup Lal Chakraborty

Prof Arup Lal Chakraborty,
Electrical Engineering
AB 5/106 Indian Institute of Technology Gandhinagar
Palaj, Gandhinagar - 382355, Gujarat, India
Email: arup [AT] iitgn.ac.in; Tel: +91 (79) 2395 2412 (office)
www.photonicsensorslab.com