



**Dr. Arup Kumar Das**  
**Associate Professor**

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**Letter of Recommendation**

I am pleased to write a letter of recommendation for Mr. Sumanta Laha for his Joint-PhD study at the IIT Kharagpur and the University of Manchester. He is working in one of my multi-institutional projects entitled “Development of a Cost Effective Left Ventricular Assist Device (LVAD) with Centrifugal Mechanical Circulator, Drive System and Associated Control” funded by ICMR and MHRD as Project Assistant since June 2018. His performance has been outstanding toward the fulfillment of the project objectives. I am pretty sure that with his meticulous manner, efficient problem-solving skills, ability to work with others regardless of their level of technical sophistication, and multitasking abilities, he can easily be an asset to any organization he is associated with within the near future.

I have interacted with him very closely for almost three years. I would have to say Sumanta is one of the thoughtful, thorough, and independent researchers that I have ever seen. While working on the project, he has tried to come up with innovative yet simple solutions to reasonably intriguing problems.

He has submitted his Master's dissertation to the Department of Mechanical Engineering, IIT Kharagpur in February 2021. During his masters' tenure, he has solely worked on three distinct problems partially aligned with the project namely, (1) Development of a cardiovascular replicator, an electro-mechanical platform for simulating human heart under healthy conditions as well as under diseased conditions, (2) Developing a basic combined model of human thermoregulation and cardiovascular system to study the effect of ailing heart on the human thermoregulation and (3) Investigation of the fluid mechanics' abnormalities of the defective bi leaflet mechanical heart valve and its diverse effect on the human body by means of fluid body interaction model. He has communicated one journal article in the *Artificial Organs* out of his problems. During his research program, he has also attended many international and high-repute conferences like EUMS-2019, ISHMT-2019, INSHLT-2019, FMFP-2018. Moreover, from his research output, he has filed a patent titled “Electro-Mechanical Analogue for Systemic and Pulmonic Circulation” and bagged the prestigious SITARE-GYTI national award along with a financial grant from BIRAC (under Dept. of Biotechnology, Govt. of India).

Apart from his academic caliber, not mentioning his interpersonal skills would make his recommendation incomplete. He interacted well with seniors as well as batch-mates. Moreover, he is humble, obedient, and easy-going. While the question of shouldering some responsibility comes in the project, Sumanta is always ready to volunteer his services. He is exceptionally well-organized, extremely quick to grasp new concepts, and always knows the objectives of a project.



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I will be failing in my duties if I do not mention his expertise as a team member and leader. Sumanta has a clear understanding of the fundamental subjects. He has a very strong motivation towards academics and research. He is never hesitant to take up challenging tasks and to execute them with a meticulous effort. His dedication, hard work, and honesty will definitely bring success to him.

Sincerely,

**Dr. Arup Kumar Das**