



भारतीय प्रौद्योगिकी संस्थान (भारतीय खनि विद्यापीठ), धनबाद

धनबाद, झारखण्ड भारत, पिन - 826004

INDIAN INSTITUTE OF TECHNOLOGY (INDIAN SCHOOL OF MINES), DHANBAD

DHANBAD, JHARKHAND, INDIA PIN - 826004

(An Autonomous Institute under Ministry of HRD, Govt. of India)

Date: 27-02-2023

TO WHOM IT MAY CONCERN

It gives me great pleasure to strongly recommend Mr. Rahul Biswas (Admission No. 21MT0302), a Masters student from the Mechanical Engineering Department of Indian Institute of Technology (Indian School of Mines), Dhanbad, India, for the Fall-2023 Ph.D. program in Mechanical Engineering at your Institution. I have known Rahul for the last one and a half years, and through my interactions with him, I found him to be exceptionally bright with excellent analytical skills. He attended the courses on "Fracture Mechanics", taught by me in the Winter Semester of 2021-2022. His overall intelligence has been reflected in the form of excellent grade in the subject. Rahul has a knack for asking thought-provoking questions in class and whenever his peers had any confusion, he actively participated in the deliberations and, on many occasions, was able to clear their doubts articulately.

I am aware of Rahul's research projects beyond his usual curriculum under various faculties of IITs. I believe his thirst for knowledge has motivated him to perform some notable works. I am particularly amazed by his capability to build on previous work. It is very uncommon for a postgraduate student to perform thorough research and come up with original work in a month's time as he did while working on Laser Clad Coatings on Titanium Alloys under Dr. Asimava Roy Choudhury, IIT Kharagpur. During the pandemic time, he completed one of his original works on Comparison of contact algorithms using ANSYS under Dr. Sachin Singh Gautam, IIT Guwahati and Kinematic Analysis of 5-bar linkage under Dr. Sajan Kapil, IIT Guwahati. Currently he is working on characterizing the "Mechanical and Fatigue Behavior of Basalt Fiber Reinforced Composites" as his Masters research topic. He recently published an article titled "**Influence of fiber areal density on mechanical behavior of basalt fiber/epoxy composites under varying loading rates: An experimental and statistical approach**" in *Polymer Composites journal*. He has also submitted a manuscript to *Composites Part B: Engineering*, which is under review.

Rahul is disciplined, hard-working, and has the ability to communicate his ideas clearly. Overall, amongst all the students I have taught and interacted with during my teaching career, I rank him within the top 1%. Therefore, I strongly recommend him, without any reservation, for the Ph.D. program in Mechanical Engineering at your Institution. I am confident that he will be an asset to your program, and I wish him all the best in his future endeavors.

Best regards,

*Dr. Sarthak S. Singh*  
27-02-23

**Dr. Sarthak S. Singh**

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