

Statement of Purpose

My primary research objective and interest are in the area of Geophysics and Environmental Science. I am currently studying M.Sc. Geophysics at the Indian Institute of Technology Kharagpur.

I am excited to apply for the Joint Doctoral Program between the Indian Institute of Technology Kharagpur (IIT Kharagpur) and the University of Manchester for the project "Groundwater Quality and Water Security in India". I believe that this program will provide me with the opportunity to enhance my knowledge and research skills in the field of groundwater and water security and contribute to finding sustainable solutions to address these critical issues in India.

My interest in the field of groundwater quality and water security started during my undergraduate studies in Environmental Science. During my coursework, I was introduced to the complexities of groundwater contamination and the challenges in managing water resources. In my third semester of the Master's program, I took a course on groundwater, which provided me with a deeper understanding of the subject and inspired me to pursue research in this area.

I am particularly interested in the research project "Groundwater Quality and Water Security in India" as it aligns with my academic and research interests. As we all know, India is facing a severe groundwater crisis, with more than 60% of groundwater wells having declining water levels. 63% of India's districts are threatened by falling groundwater levels. The overexploitation of groundwater has resulted in a decline in water quality, which poses a significant threat to human health and ecosystem sustainability. This project focuses on studying the factors affecting groundwater quality and quantity in India, including natural and anthropogenic factors, and the impact of climate change on groundwater resources. I believe that this research is crucial for developing sustainable water management strategies that can ensure water security for future generations in India.

Geoscience has a significant role in alleviating today's environmental issues. Given that it requires extensive support of the computational power of machines, I would be interested in working in this direction. The Joint Doctoral Program between IIT Kharagpur and the University of Manchester is the perfect opportunity for me to further my knowledge and research skills in the field of groundwater quality and water security. The program's interdisciplinary approach and the chance to work with international experts will provide me with a unique learning experience that I am confident will be invaluable for my future career goals.

In conclusion, I am confident that the Joint Doctoral Program in Groundwater Quality and Water Security between IIT Kharagpur and the University of Manchester will enable me to make significant contributions to the field of groundwater research in India. I look forward to the opportunity to work with esteemed faculty members and researchers in this program and contribute to finding sustainable solutions to address the water crisis in India.