

## STATEMENT OF PURPOSE

I am Allwyn from Tirunelveli, Tamilnadu, completed my MSc Chemistry from Pondicherry University and cleared CSIR JRF and GATE exam. Even as a kid, when I wasn't familiar with the term 'Research', I used to assemble my friends and kids of our neighbours in front of my home and explained them what I learnt in my school. I have found myself always eager and curious to learn new things. Now when I think of my past, I always feel that by birth I have the thirst to become a researcher and a professor both of which are interrelated. I believe that research will provide me a hand on guidance, I need to improve my scientific thinkings and skills and pursue my goals of excellence in teaching and contribute much of mine in the future research. Also, I value research and respect researchers because great innovations in technology, which has made our life simple is only because of millions of researchers behind it. I too want to be responsible enough to contribute my role for the same. For that I need an active guide, good facilitated institute, which carry out application oriented fundamental research for the welfare of society. I believe that the value of the research work is well recognised in IIT Kharagpur and University of Manchester. Most of the work is tied with industries and many international institutes, also science and engineering departments work collaboratively, making the research application oriented which would come to limelight very soon and so the work experience will be worth enough. Since, the institute is also enriched with all the facilities and instruments necessary to carry out research in any field of science and technology and makes work easy, who would say no to such superlative institute. Also since the PhD is a joint programme, I would be under the guidance of two guides, and would happen to gain more experience and knowledge compared to single institute PhD. Also I would get the chance to explore the culture, food and life of Germany, so it's worth joining the course.

I am from a rural background where people don't value education. During my undergraduate, there were no professors who could encourage and guide me. Actually they don't like if I ask any doubts. Also all of my classmates studied chemistry just for the sake studying. Me being odd one, I studied most of the papers all by myself. So most of the time I didn't even have the confidence to explain something to someone because even I didn't know if I was correct. It was through YouTube I got the exposure of higher education and research. But since it was very late I couldn't give JAM exam. But I wrote several other entrance exams and got selected in Pondicherry central university. Here students join from different regions of India. From here I got the exact reason why we study, where it exactly applies. I was highly motivated by most of the faculties especially Dr. Venkatesan who actually defined the basic terminologies like temperature, entropy which was a misconception initially. It was because of their encouragement, I applied for summer internship and got selected in IIT Madras and worked under Dr. Md. Mahiuddin Baidya carrying out the synthesis of several oxindole compounds for asymmetric synthesis. It was through this internship, I learned the basic wet laboratory techniques like TLC, column chromatography, rotatory evaporator, solvent drying, handling schlenk line, and running the spectrums like UV-Visible, IR, NMR. Then my one year project of synthesizing rhenium based Supramolecular rectangles under Dr. Bala. Manimaran gave ideas regarding inorganic aspects of research. The failure

and continuation of the catalytic reactions gave the patience and self confidence required for the research. My family economic crises restricted me for research initially, but later on I got the confidence that I can manage it through my fundings.

During the beginning of covid lockdown, I accidentally happened to read an article on biomimicry of nanotechnology. There onwards I started reading papers and review articles relating to nanochemistry and it's application in every sector and was very really impressed with the work and started wondering why not try this field. I got interested in the field relating water and waste treatment via nanomaterials. I finally decided that I would work in area of nanomaterials and their implications to cleaner environment and affordable clean water . Since this project work is very closely related to my area of interest I would love to work on the project. I have also taken an optional paper of Nano materials and photocatalysis in my final semester. Even though I have not carried out project work in that area, I assure that my interest would boost me to learn the fundamentals as early as possible and contribute much of mine for the research.