

Shubham Verma

Indian Institute of Technology Kharagpur

Rubber Technology Center

West Bengal, India

Tel: +919205365122

E-mail: shubverma24680@gmail.com

Statement of Purpose

As per my career plan, I hope to work as a professor or a research scientist in a renowned laboratory of polymer engineering department. Acquiring new technical ideas was always a huge passion of mine. Whilst I am proud of my accomplishments to date, I wish to broaden my current level of understanding and experience.

Learning subjects in a structured way was also a process of understanding pragmatism and established reality in the form of practice. I had my interest in the field of polymer synthesis, chemistry and modification from the time of my engineering study. I carried out many academic projects related to polymer synthesis and studying its related properties. I worked on the synthesis of a novel biodegradable thermoplastic ter-polyester blend for packaging applications. The chemistry involved in the synthesis of macromolecules drove my interest to learn more about these complex systems and the scopes are wide in the field of research.

These Academic projects enabled me to look closer at topics, evaluate options and to reconsider and rethink conventional approaches. I am highly motivated to do research in the field of macromolecular synthesis and modification where I can utilize my knowledge to come up with new ideas for developing novel materials.

I believe that my solid background in related subjects ensures that I am well suited to making considerable contributions to the Joint Doctoral program with University of Manchester.

Soon after my bachelor's degree in polymer engineering, I started preparing for **GATE (Graduate Aptitude Test in Engineering)** to get admission in master program in **IITs (Indian Institute of Technology)**. It's like a dream to get admission in IITs for every engineering student in India and I got admission in Indian Institute of Technology Kharagpur for Master of Technology (MTech) in Rubber Technology Center.

During my 1st year of MTech program, I gained very good knowledge about polymers and their chemistry. My advisor Prof. (Dr.) Nikhil Kumar Singha from IIT Kharagpur has always helped me from the starting to understand the basic concepts. I was always interested about the synthesis, chemistry and properties related to the polymers.

After 1st year of my master, I was selected for **DAAD-KOSPIE Scholarship** program to carry out my master thesis work in IPF, Dresden, Germany where I worked on studying the self-healing properties of commercially available chlorosulphonated polyethylene rubber by non-covalent ionic modification with primary, tertiary amines and N-alkyl imidazoles.

I think the knowledge of working with self-healing polymer during my master's thesis has given me good understanding and working experience so far in this field. I definitely can make my valuable contribution to this proposed PhD project also.

Fortunately, I also enhanced my technical competence in various cultural aspects thanks to interacting with national and international professionals. While working as a researcher, I realized that I need to take up higher studies in order to excel and stand out in the areas of polymers field. Throughout this experience I was able to improve my knowledge of the discipline on different levels through developing a researcher mindset, sensibilities and skill sets.

A Doctorate from University of Manchester would leave me well equipped for any academic and industrial endeavors.

I feel that learning alongside a group of professionals with diverse backgrounds will result in more effective teamwork and first-hand experiences as a complex situation demands diverse skills and efficient management. Embracing diversity of experience, views and perceptions and inclusive knowledge are embedded in my personality and I look forward to widening networks and experience in the new setting as well.

My research focuses on developing strong basics in macromolecular science which has equipped me with a unique set of scientific qualities. I tried my best to ensure that I would be well prepared to go further and enhance the work in my Doctoral program. I truly believe that when academic learning and prospective career paths are aligned, the highest challenges and rigors turn in to welcome joys and the practice of the discipline becomes a welcome way of life. I believe wholeheartedly that this Doctoral degree will be an important step towards this final goal.

Yours Sincerely

Shubham Verma

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