

## **MOTIVATION LETTER**

I am a Physics postgraduate from the prestigious institute Visvesvaraya National Institute of Technology, Nagpur, India. My master's CGPA is 8.25/10. I am writing this to grab a research position at your institute.

Talking about my research background, I have worked in experimental condensed matter physics, material science. During my master's research project, under associate prof. Dr. Anuradha Deshpande, I worked on the synthesis of zirconia reinforced lithium disilicate glass ceramics, for defense applications. In this project, my aim was to synthesize glass ceramics of high microhardness and fracture toughness. During my graduation, as a summer intern I have also worked under Dr. Amarnath, project was related to synthesis of materials for energy applications.

The most important part of experimental research is the characterization part, which enables us to get the proper information about the details & specifications of the material one has synthesized. And surely, I have learnt and performed various characterizations during my masters research project. I have good knowledge of X-Ray Diffraction (XRD), SEM, FE-SEM, Differential Thermal Analysis (DTA) and density measurements. With this, I also have learnt computational skills such as C, C++, LaTeX. I have worked on the high temperature programmable furnace. Also, got involved in studying the mechanical behavior of glass ceramics samples using microhardness and fracture toughness instruments.

Also, after my post-graduation, I have worked in many companies from which I have learnt skills of collaborating with teams, working as a team, have the determination to do hard work (smartly) and team building.

By entering in this institute, I look forward to the new intellectual challenges that the research group will provide, and I am sure that I will discover new passions, curiosities, and questions as I prepare for my hopeful career in academia, as a professor.

Best regards

Garima Thakur