

A few years back, my aunt died after a long and fierce battle with cancer. It was during my aunt's illness that I realized I could use my natural love of science to benefit others facing similar challenges. This was the time, when I chose to push my studies in the direction of medical field, and given my circumstances I decided to pursue chemistry major, eventually giving path to my graduate studies in cancer research.

During my undergraduate I explored, Chemistry, Botany and Zoology as major subjects. Through various interdisciplinary exposure, the interface of chemistry & biology started intriguing me. Since I can remember, I was always fascinated with trying to understand how things work, badgering anyone who could quench my curiosity by answering my 'why' and 'how' questions. I decided to pursue Master of Science with Chemistry specialization from one of the top institutions in India; **Indian Institute of Technology (IIT) BHU** to improve my academic skills.

I am a consistent and hardworking student having a CGPA of 9.58 in my master's and a Four-year of hands-on lab experience. I am familiar with chemistry lab procedures safety measures and sanitation concerns. My academic background in chemistry is extensive. I am very comfortable in a lab and my organizational skills are impeccable. During my course, I have developed a passion for research

I'm personally interested in developing various 2D materials and studying their biomedical applications and electrochemical properties specially in cancer treatment. Effective cancer treatment necessitates early detection and cost-effective monitoring of the disease's progression. Point-of-care (POC) screening can give end-users with a portable and inexpensive instrument to test and screen their health issues without the need for special skills. Because of its low cost, high sensitivity, multiplex detection ability, and downsizing ability, electrochemical technologies have a lot of potential for clinical investigation of a wide range of chemicals and compounds, as well as cancer biomarkers. I want to design two-dimensional (2D) material-based electrochemical biosensors/sensors that can speed up the performance of traditional devices, leading to more practical solutions.

For clinical translation, I'd like to look at the future possibilities of using 2D materials in electrochemical POC cancer detection under the able guidance of **Prof. Gorachand Dutta** from **IIT Kharagpur** and **Prof. Cinzia Casiraghi** from **University of Manchester**

I believe that with my skill-set, I would be a valuable asset to the group, making myself an excellent candidate to pursue graduate studies at IITKGP and University of Manchester . I believe that my experimental & Soft Skills will lead to better understating of data, and high impact research. With my background, research experience & motivation, I believe that I can face challenges successfully during the long course of graduate studies.

**IITKGP-University of Manchester Dual Doctoral Degree Program** will provide me true multi-ethnic culture with different nationalities students researching in a group, and it will bring best out of me as I believe that confluence of diversity, and inclusion provide the best academic environment for the breakthrough research advances for the society. I believe that my life experiences have equipped me with the tools necessary to be a successful graduate student and contribute meaningfully through my work at **IITKGP** and **University of Manchester**.