



Sample Personal Statement for Ph.D Admission

I have personally witnessed catastrophic climate events and a decline in average temperature in the last decade as a resident of India's capital city, Delhi. Despite the fact that the world proceeds to get warmer, as a result of carbon pollution and ozone depletion, Delhi is becoming colder. On the other hand major cities like Mumbai and Kolkata have shown a spike in temperature. The Council on Energy, Environment and Water predicts that by 2035, there will be an increase in abnormal weather events by 250%.

The extreme cold and harsh temperature has killed many citizens of Delhi over the years, but I never thought my family would also have to suffer the loss of a loved one due to climate change. During the winter of 2022, my nephew who was just one year old was affected by bronchiolitis and passed away. This incident was an eye opener that motivated me to research about deaths caused due to lowering temperatures and colder winters. My research led me to the realization that climate change was adversely affecting the lives of the people of my city. As a post graduate in Chemistry, I wish to contribute to the field of renewable energy to mitigate effects of climate change and provide the citizens of my country a safer future.

Following the Kyoto Protocol and the Paris Climate Agreement, there is a significant increase in demand for energy-efficient electronic equipment for lighting and energy storage in order to minimise greenhouse gas emissions. The future of sustainable energy technology is brighter than ever, thanks to advancements such as halide perovskite-based solar cells, which demonstrated record power conversion efficiency. As a result, I have decided to pursue a PhD in renewable energy technology in order to address some real-world issues for the benefit of society.

For my bachelor's, I chose Chemistry as my major at St. Stephen's College, Delhi, one of India's finest performing colleges, with Physics and Mathematics as minor studies. My three years at the college were packed with lively scientific exchanges, conversations, and learning, with the college providing a wealth of chances for science enthusiasts like me. I had the opportunity to serve as a summer research fellow at the Indian Institute of Science Education and Research Kolkata (IISER K) during my second year of undergrad, where I had my first exposure in a genuine research laboratory. I was working on the synthesis and characterization of organic semiconductor compounds there. Those two months of the project were a watershed moment in my life, as I was introduced to the fascinating world of semiconductors and optoelectronics research.

Later, I completed my Master's in Chemistry at the Jawaharlal Nehru University, Delhi which is one of the country's top research universities. I was selected for the IISER K Summer Research Fellowship during my master's programme, where I worked on semiconductors and resistive memory devices, studying their electrical bipolar switching mechanisms and charge transport properties, and finally producing exceptional findings. Following that, I wanted to delve more into the field of optoelectronics and was selected for the prestigious Indian Institute of Technology Bombay (IITB) Research Internship Awards to work on a master's thesis on Perovskite Solar Cells: Stability Studies.

With a background in chemistry and research interests in organic and inorganic semiconductors as well as light-harvesting devices, I decided to pursue a PhD to further my knowledge in this field. Furthermore, the proposed project addresses some of the most pertinent and essential difficulties in the field of perovskite solar cells, which, if resolved, might lead to the commercialization of the technology, giving the world a significant boost in combating climate change. Because of the extensive research being conducted in the field of science and engineering in Spain, particularly at IMDEA Energy, one of the top internationally acclaimed research institutes, I decided to pursue a PhD there. A large number of Spanish universities and institutes are consistently ranked very high in the world rankings, making both the country and IMDEA Energy a perfect choice for an aspiring researcher. In addition, IMDEA offers global exposure, cutting-edge research facilities, and a variety of research collaborations in this sector.

With a great ambition to find solutions to India's approaching climate crisis, I hope to find myself in an academic post at a reputable research institute in India with a research plan to better the lives of the ordinary people in the next six to seven years.