

STATEMENT OF PURPOSE

I am Ann Mary Antony from Kerala, India, a postgraduate in Chemistry who is keen on observing and investigating the various phenomena in our world. I have completed Bachelor of Science in Chemistry from Christ College (Autonomous), Irinjalakuda, Kerala, India and Masters in Chemistry from St. Joseph's College (Autonomous), Devagiri, Kozhikode, Kerala, India. I would like to express my sincere interest in applying for the PhD position that focuses on sustainable development of peptide hydrogels from waste products for health applications under the dual PhD program organized by IIT Kharagpur and University of Manchester.

The curious world of science sparked an interest in me, inspiring me to learn, question, and venture into the mysteries of our natural world. And this was the driving force behind my studies in Chemistry, a subject filled with experiments, facts, and inventions. During the past two years, I attended a set of international and national webinar series, completed various online courses, read several articles and journals related to science and innovation, presented papers at virtual International Conferences and also published my work in an international journal. As part of my M.Sc. project work, I was able to work on the synthesis, thermal characterization, and theoretical modeling studies of synthesized chitosan-based polyelectrolyte complexes.

Nature has always been our first priority. But somehow in our fast-forwarded life we have failed to preserve and conserve what we have received from the Earth. Needless to mention, global warming, climate change, imbalanced ecosystem and many more consequences are indeed a result of our known and unknown actions. And thus, it is necessary to look for sustainable applications that can positively affect the world. One such attempt was a project on carbon dioxide removal method using calcium carbonate during my bachelors. The recent biomaterial development and its characterization have intrigued me by the practical approach used in research, focusing on the most relevant and advanced topics. I am confident that my skills and research interests make me an ideal candidate for your open position.

I find this Ph.D. position highly interesting since it highlights the need to develop peptide hydrogels from waste products with tailor made properties and focuses on eco-friendly and sustainable methods to achieve the same. As you can see from my enclosed CV, I've been able to

hone my skills into key specializations, which led me to develop an interest in this project. I have also completed a short-term course on 'Recent Trends and Developments in Biopolymers, which educated me more on the scopes of switching over to natural and sustainable alternatives. I am also adept in organic synthesis, separation techniques, Thermogravimetric analysis, and scientific writing. In addition to my experience and personal qualities, I have a solid educational foundation and a passion for research. With the theoretical knowledge and skills, I have acquired, I am confident that I can complete my chosen research project to a high standard. The research teams with their diverse activities, advanced ideologies and technologies, achieving interdisciplinary collaboration and international standards have fascinated me to be a part of this program. As part of a developing society, it is important to liberate oneself from the limitations placed upon ourselves. Therefore, I desire to venture overseas and make my mark, by redefining my knowledge.

Following my Ph.D., I would like to either venture into post-doctoral or take up a full-time job, nonetheless contributing my share to the world and its progress. Being enthusiastic about learning and imbibing new things, I look upon this as an excellent opportunity to experience a new culture in academic and non-academic terms. I look forward to refining my knowledge and discipline to be enlightened by the serendipities that my journey shall offer.