

Statement of Purpose

"Teaching is a noble profession that shapes an individual's character, caliber, and future. If the people remember me as a good teacher that will be my biggest honor." - Dr. APJ Abdul Kalam.

Our former president Dr. APJ Abdul Kalam's about the noble nature of teaching motivated me to follow a course that focuses on knowledge achievement and empowering future generations. With this philosophy at heart, I am thrilled to submit my application for the Master's program in Physics at Université du Luxembourg. With a solid foundation in Physics from Mar Thoma College, University of Calicut, Kerala, and a passion for scientific inquiry, I am eager to embark on this next chapter of academic and personal growth at your esteemed institution.

During my undergraduate studies, I followed a journey into the depths of Physics, where I was really fascinated by the fundamental principles about the cosmos. Investigating into diverse disciplines such as quantum physics and astrophysics, my coursework gave me comprehensive understanding and confidence in complex subjects within the field. Furthermore, my research endeavours, particularly in Charge Coupled Devices (CCD) photometry for identifying celestial point sources, poured fuel to my passion for scientific exploration. Our project aimed to utilize photometric techniques to discern objects based on their photometric data, leveraging the colors of spectroscopically identified objects as a guiding principle. By employing TOPCAT, a virtual observatory tool, we meticulously analyzed the distribution of colors of various point sources within the color feature space. Remarkably, our findings revealed distinct clusters for stars and quasars, with nominal overlaps and clear separability. This led us to the conclusion that the colour of a celestial object correlates with its inherent nature and can serve as a reliable parameter for identification purposes. This immersive research experience solidified my theoretical knowledge and honed my practical skills in data analysis and scientific inquiry. It underscored the importance of meticulous observation and critical thinking in advancing our understanding of the cosmos. As I embark on the next chapter of my academic journey, I am eager to explore the realms of Physics further and contribute meaningfully to the scientific community.

Combining my experiences both in curricular and extracurricular activities, I have cultivated a multifaceted skill set with leadership, advocacy, and a passion for fostering academic excellence. As a dedicated student representative, I served as a University Union Counsellor at Calicut University, Kerala, from 2016 to 2017, where I effectively voiced the concerns and aspirations of my peers within the university community. This role instilled in me a deep sense of responsibility and a commitment to championing the interests of others. During my undergraduate years at Mar Thoma College, Chungathara, Kerala, I further honed my leadership skills as a Class Representative. As a liaison between students and faculty, I facilitated open communication and collaboration to enhance the academic experience for

all. Additionally, my role as Magazine Sub-Editor in 2018 allowed me to contribute to the creative process, assisting with content creation, editing, and layout design for the college magazine. Through these experiences, I developed a keen eye for detail and a passion for effective communication.

I have excelled in various extracurricular activities, showcasing my talents and dedication on multiple platforms. As a J A M 2019 qualifier, I highlighted my aptitude for problem-solving and creative thinking. Furthermore, my achievements in the All-Kerala Physics Talent Search Exam, where I secured 4th rank statewide and 1st rank at the University of Calicut, underscore my academic prowess and dedication to the field of Physics. My passion for sports is equally noteworthy, as demonstrated by my long-standing commitment to the Malappuram District Basketball team from 2011 to 2019 and my participation in Kerala State Basketball tournaments in 2013. Through these experiences, I have honed valuable teamwork, discipline, and perseverance skills, which have greatly enriched my personal and professional growth.

For the past four years, I have been actively engaged in Physics as a faculty member, balancing teaching responsibilities with a commitment to advancing research initiatives. This experience has not only strengthened my understanding of complex theoretical concepts but has also instilled in me a deep appreciation for the importance of interdisciplinary collaboration in driving scientific progress.

My decision to pursue graduate studies at Université du Luxembourg stems from a desire to immerse myself in a dynamic academic environment that fosters innovation and excellence. I am particularly drawn to your institution's diverse research opportunities and state-of-the-art facilities, which I believe will provide me with the necessary resources to further my academic and professional aspirations. Furthermore, I am excited about the prospect of working alongside esteemed faculty members and engaging with fellow students who share my passion for pushing the boundaries of scientific knowledge. I am eager to contribute to the vibrant academic community at Université du Luxembourg and to make meaningful contributions to ongoing research endeavours. In conclusion, I am wholeheartedly committed to pursuing excellence in Physics. I am confident that Université du Luxembourg provides the ideal environment to achieve my academic and professional goals. I am grateful for the opportunity to be considered for admission to your Master's program and am eager to embark on this transformative journey. Thank you for considering my application.

I look forward to the possibility of studying at Université du Luxembourg and am excited about the prospect of contributing to the academic community at your esteemed institution.

Sincerely,

Abhijeet V

