

Dear Academic Committee,

Having obtained a masters in Chemical Engineering granted by Instituto Superior Técnico, I would like to apply for a PhD scholarship by FCT.

My decision for applying for a PhD is because of my long-term interest in the field of chemical engineering, as well as my passionate desire to contribute to the development of new, innovative, advanced, sustainable catalyst and catalytic systems to tackle modern-day challenges such as global warming, by converting volatile organic compounds (VOCs) and avoiding their emission to the atmosphere.

When I first started my journey as a Chemical Engineering student, I had some foresight into how important chemistry and engineering would be to advance scientific research/innovation in numerous scientific communities and industries. Now with the path the modern world has taken, Chemical Engineering has never been more relevant to the progress of everyday life.

During my studies in my degree, I became fond of the atmosphere of the working laboratory environment and the importance of a Catalyst and its impact on the industrial process. In my masters, I specialised in petrochemistry, system optimization and control, and homogeneous and heterogeneous catalysts.

I've gained many skills and knowledge as a student and a researcher. I've acquired skills in the synthesis of ligands including C-scorpionates, metal complexes, on catalytic systems of oxidation reactions, on the synthesis of materials like mesoporous silica and on immobilization of metal complexes as well as nanoparticles into supports.

With this PhD, I will continue to gain more knowledge and nurture my competencies on the synthesis and the heterogenization of metal complexes, catalytic systems that can further change problems such as industrial pollution, like the emission of volatile organic compounds.

I humbly wish you would consider my place in the scholarship so I can pursue my career, passion, and dream.

Yours Sincerely,

James Donovan.