



I joined the Sustainable Reaction Engineering group in 2019 through the SynTech CDT programme, after completing the MEng in Chemical Engineering at Imperial College London.

The SynTech programme interested me due to its interdisciplinary approach to solving problems and the opportunities to explore topics within the broad scope of SynTech before having to decide on a PhD topic. In my final year research project at Imperial College I modelled biogas exploitation, for the SynTech six-month training project I developed a proof-of-concept methodology for using the chemical data standard 'Unified Data Model' in an autonomous optimisation loop, and for my PhD I will study chemical reactivity prediction. This diversity of projects was enabled by the excellent foundational skills training provided by SynTech.

I aim to research reactivity prediction using a hybrid mechanistic/statistical approach, as I believe this will alleviate issues of accuracy associated with statistical methods (e.g. machine learning), and scalability associated with in-depth investigation of reaction mechanisms. This approach will likely require constriction of the chemical space and consideration of the molecular context.