

Since July 2009, I have been a PhD candidate at the University of Liverpool. My research focuses on unsteady flow simulations around aircraft by the means of Computational Fluid Dynamics (CFD). The project specifically deals with the store release problem, which means that there are complex motions associated with bodies moving relative to one another. This translates into heavy computational loads and time.

The current software in use at the university does not allow such simulations to be performed. Therefore, a new code was developed to take into account the specificities of such cases. It combines a meshless flow solver with a preprocessor and aims at solving complex turbulent flows over detailed movable geometries in 3D. Parallel processing is the key to allow these large, demanding problems to be solved.

This course fits perfectly with my PhD project as it will greatly improve my knowledge in areas that are needed for the continued development of the method; namely Performance Programming and Parallel Architectures. I believe this course would allow me to implement these capabilities much more efficiently and effectively into the research code.