

# Tom Bendall Cohort 2015 Imperial College London



Research project: Physics-Dynamics Coupling in Numerical Weather Prediction and Climate Models

I came to the MPE CDT having done a physics undergraduate and MSci at Cambridge, but am originally from Skipton in North Yorkshire. I was initially attracted to the programme because my main interests were in geophysical fluid dynamics and meteorology. This seemed the ideal course to pursue these interests, as all the while I would be honing my mathematical skills at two world-leading universities.

My PhD project investigates how different components of weather prediction models couple together, and in particular how this is influenced by the way we have chosen to discretise the PDEs describing the motion of the atmosphere. At the moment this involves building moisture into an atmospheric model. One of the things I love about this project is that it allows me to not only learn about the physical processes in the atmosphere, but also about the numerical methods used to simulate it.

The CDT provides a fantastic way to move to a new institution -- your cohort provides a ready-made set of friends! The areas of mathematical expertise amongst the students are pretty varied, even if our motivations are all similar. This is great because it means we can all learn from one another. I found this particularly important having transitioned from physics to mathematics, which was challenging but also very rewarding, as it allowed me to learn fresh approaches to tackling problems. One of the strengths of being based at two institutions is that it provides a larger academic network for you to tap into. Part of the course also involves a summer placement at the Met Office, which is also a huge attraction.

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