PhD Position, UK Met Office

The Science Graduate School at the University of Bath is looking for enthusiastic UK graduates wanting to do an exciting PhD in Mathematics on the "Application of Multi-level Monte Carlo Methods in Atmospheric Dispersion Modelling". This is an enhanced EPSRC CASE Studentship in collaboration with the UK Met Office. EU Graduates who have lived in the UK for 3 years can also apply.  
  
The goal of this project is the application of multilevel Monte Carlo methods (a novel variance reduction technique for stochastic differential equations) to problems in atmospheric dispersion modelling, such as the dispersion of a cloud of volcanic ash, or of a smoke plume in an industrial fire. With your own implementation of the method you will study the performance of the method for a range of representative model problems from the Met Office. The aim is to demonstrate and improve the effectiveness of the multilevel approach in the atmospheric modelling context. As far as possible analytical methods will also be employed to study the performance of the method theoretically and to guide the design of efficient algorithms.  
Depending on the success of the project, the method will eventually be implemented in the Met Office? operational model. For more information see <http://people.bath.ac.uk/masrs/CASE_MetO.pdf>  
  
We are looking for Maths graduates with a background in numerical algorithms, numerical analysis, differential equations, and computing, as well as an interest and basic knowledge of probability theory. Alternatively, we also strongly encourage students with a background in probability/statistics and a keen interest to expand their studies to numerical analysis and computing to apply.  
  
For more information please email  [R.Scheichl@bath.ac.uk](mailto:R.Scheichl@bath.ac.uk)