I am writing this letter to express my interest in attending the summer School on "Effective HPC for Climate and Weather" at University of Reading, Reading, UK. I am a PhD student at Centre for Atmospheric Sciences, Indian Institute of Technology Delhi, INDIA, working on improving the cloud convection and its representation in the global climate models. My doctoral thesis on "**Improved Convection and Cloud Parameterization: Towards an India Centric Climate Model (ICCM)**" focuses on identifying the various sources of precipitation biases in GCMs, and improving the deep convective and cloud processes. For the development of ICCM, I have conducted various numerical simulations on HPC PADUM at IIT Delhi, India and have faced various challenges in scientific computing related to the software environment, code execution, computing resources, big data handling, etc. In addition, I am also attempting to develop and improve the existing deep convective cloud parameterization using the machine learning, which in general require a large dataset for training and so its handling is very tedious for me.

Since, this summer school on HPC usage is largely covering the topics related to the machine learning, code development and some challenging tools for the efficient usage of HPC. I think, this summer school would help me to complete some of my PhD thesis work more efficiently by getting the experience from the renowned persons on HPC and climate modeler available there. I have also the following expertise, which I think; it will also help others during the summer school.

- Extensive experience in handling and analysing large datasets such as CMIP5&6, GeoMIP5, Community Earth System Model (CESM) large runs, Single Column Atmosphere Model (SCAM) large runs.
- I have extensive experience in working on super-computing environment for running and designing the simulation experiments using the global model (CESM1&2) and single column model (SCAM6).
- I have extensive experience on Polynomial Chaos Expansion, Bayesian Optimization, Stochastic Distribution, and Sparse Grid Representation.
- I have excellent programming skills in NCL, MatLab, FORTRAN and Shell Scripting.

With this, I firmly believe that I am highly motivated to attend this summer school in enhancing my career goals. I look forward to hearing from you.
Thank you