Motivation Letter

Background

My primary research interest is aerosols and clouds, and their interaction with weather, climate, and human life. Aerosols and clouds, and their interactions play important roles in Earth's climate system, particularly its radiative energy budget by exerting both a cooling and warming effect on the climate and affect the Earth's water cycle. Because of the limitations in ground-based and satellite remote sensing techniques, numerical models have been critical for simulating the current and future aerosol properties, cloud processes, and climate effects.

Tentative Project: Cloud Simulation with Numerical Weather Prediction

I have been using HPC systems to perform numerical simulations with WRF. I'm particularly interested in extreme-scale computation, either very high resolution or large domain, for which is usually required for cloud-resolving simulations and climate-related research. Therefore, I'd apply the knowledge of computation skills, data manipulation and analytics to finish the project. And I'm good at collaborating with others.