

Department of Physics and Engineering
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To The Organising Committee

I am applying to participate in the Summer School on Effective HPC for Climate and Weather. The call seems to fit very well with my education, experience, and career interests. I will be graduating from the University of KwaZulu-Natal, South Africa with a PhD in Agrometeorology in April 2020. My research interests include climate modeling, mainly focusing on probabilistic multi-model ensemble climate prediction. Zimbabwe has experienced extreme weather events in the last few decades, with major historical droughts occurring in 1982-1984, 1991-1992, 1994-1995 and 2015-2016. Recently, the country experienced cyclone Idai which adversely affected agriculture, schools and infrastructure. However, accurate forecasts of these events have been problematic. In my Msc study, I have worked with Global Climate Models (GCMs) from the IPCC AR4 to project climatic trends in Zimbabwe by the end of the 21st Century. Thereafter, I have used CMIP5 GCMs to predict air temperature and rainfall in Zimbabwe under Representative Concentration Pathways (RCP) 4.5 and RCP8.5. I am currently scouting for a Postdoctoral position in which my research interests will be weather and climate forecasting using Artificial Neural Networks and GCMs/RCMs. One of the topics listed in the call which will broaden my understanding of the intended Postdoctoral work is Machine Learning, thus I find the Summer School very relevant. I will prepare for the Summer School in terms of gathering the materials that might be required at the School should there be any.

Yours Sincerely

A handwritten signature in blue ink, appearing to read 'J. Masanganise', is placed within a light yellow rectangular box.

Joseph Masanganise