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Dr. Luciana Pedro
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Dear Dr. Luciana Pedro,

Hereby, I would like to express my interest to attend the summer school on *Effective HPC for Climate and Weather* at the university of Reading (23-28 August 2020). The scope of the summer school and the topics that will be addressed are of high interest and directly related to my current activities at the German Climate Computing Center (DKRZ).

Currently, I am working on developing new services for interactive climate data processing. These services target different kind of users and involve diverse techniques and tools like machine learning, distributed computing and containerzation. One of the services that I am deploying now is a new customized JupyterHub server that makes it easy and transparent to interact and work with Python and Jupyter notebooks on our HPC facilities (Mistral). The aim is also to hide the complexity of HPC infrastructures.

Over the past years, I was involved within different European projects such as EUDAT[1] and EOSC-hub[2]. For the latter, with the collaboration of our partner from CMCC, I developed the ENES Climate Analytics Service (ECAS)[3]. which is a service for server-side processing and sharing of multidimensional climate data on HPC. My objective behind joining this summer school is twofold:

- share my experience and developments from the above mentioned projects with other participants (post-processing and sharing of climate data).
- gather expectations / requirements from the participants in their daily work with climate data on HPC.

As a tentative idea for a project, I would like to tackle the use of Python and

[1] https://eudat.eu

[2] https://eosc-hub.eu

[3] https://portal.enes.org/data/data-metadata-service/processing/ecas

containers to develop and run workflows on HPCs. With other participants, we can investigate the state-of-the-art existing supporting tools. We can develop minimal (climate) use cases, packaged as micro services, and running in containers. The implementation will be showcased using Jupyter notebooks to enhance code reproducibility. The knowledge gained at the summer school will be used as an additional input for our next Jupyterhub release at the DKRZ.

Yours Faithfully,

Sofiane Bendoukha