When I applied to ESA summer school, I thought about it as a great opportunity to learn more about Earth observation missions and data assimilation in numerical models. In fact it was much more than that, it was about meeting people from very various fields (from ice dynamics, cloud monitoring, system of systems, etc.) and exchanging ideas and opinions on even more various topics. The lectures in the morning were very interesting and comprehensive even for beginners. The practicals in the afternoon gave us the chance to apply and experiment new methods and tools made available by ESA. Finally in the evening, the poster session was the real moment of exchange between all the participants presenting their current work, followed by further discussions during diner at Villa Tuscolana.

My poster focuses on how to estimate from space the water contained in the first layer of the soil and how to use that information in a hydrological model through data assimilation. My study is applied over an African basin in Benin and shows that the 15km soil moisture product from the SMOS (Soil Moisture and Ocean Salinity) ESA mission is able to provide valuable input into a 1km model. This work is essential to have a better understanding of the water cycle at the local scale using global scale observations from space in order for people to have an adequate management of the water resources available in their own environment.