

Project: **1136**

Project title: **Solving The Entrainment Puzzle (STEP) - WP3**

Principal investigator: **Wiebke Frey**

Report period: **2020-11-01 to 2021-08-31**

*Note:*

The project leader (Dr. Wiebke Frey) had been on maternity leave from August 2020 to July 2021. This was also the reason not to request any computing resources for the previous allocation period (01/2021- 12/2021). Accordingly, no resources were used this year until now.

Due to the pandemic, and the resulting issues with the experimental part of the EU funded project that the model simulations intended to perform here are part of, it was not possible to start the modelling activities as planned in early 2020. The measurements however, needed to be performed first as they deliver some input for the simulation setup.

Dr. Fabian Senf was added as project member and he conducted some first setup tests with ICON in the second half of 2020 while the project leader was on leave. Unfortunately, he had persistent issues with segmentation faults and could not prevent resources from expiring.

In STEP-WP3, the ICON-LEM will be used in high resolution (75m horizontal) to simulated two cases from the ACORES campaign (Siebert et al., 2021, DOI: 10.1175/BAMS-D-19-0191.1). From the measurements mentioned above a new mathematical formulation for the calculation of entrainment will be derived and tested within the ICON-LEM simulations.