

Rachel Honnert

Birth date: 24/04/1985
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Positions

- **December 2023 - December 2024:** Meteorological Station Leader in Dumont d'Urville (Antarctica).
- **October 2012 - November 2023:** Research scientist in charge of the modeling of atmospheric turbulence in high resolution models at CNRM (Toulouse, France).

Education

- **2009-2012:** PhD at CNRM (Toulouse) on the modeling of the boundary layer, including a mission of investigation (study of the boundary layer at the kilometric and sub-kilometric scale) and a mission of design and implementation of a turbulence parametrisation at the kilometric and sub-kilometric scale.
- **2009:** Ecole Nationale de la Météorologie (Toulouse) graduation.
- **2008-2009:** Master 2 "Ocean, Atmosphere, and Continental Surface" at Université Paul-Sabatier (Toulouse). High honors.

Teaching

- **2012 - 2021:** Boundary-layer modeling lectures, Master 1 level, at the ENM (Toulouse).
- **2011 - 2020:** Boundary-layer meteorology lectures, Master 2 level, at the University of Toulouse.
- **2015 - 2017:** Parameterisation modeling trainings, permanent training at Météo-France (Toulouse).
- **2013 - 2015:** Physical parametrisations lectures, Master 2 level, at the ENM (Toulouse).

Skills

- Good knowledge of Fortran and Python.
- Good knowledge of Linux, shell scripting, git and Latex.
- Long experience as a HPC user and developer in complex weather forecasting codes (ARPEGE-IFS, AROME, Méso-NH).
- Language: fluent English, French mother tongue, notions of German and Norwegian.

Bibliometry, Supervising and Conferences

- 17 published papers in international peer-reviewed journals (7 as first author), H-index of 12 [Web of Science, 26/01/2025].
- Supervisor of 13 trainees (1 PhD and 2 Post-Doc)
- 5 european Consorsium and International Projects
- Speaker at 10 international conferences and workshops (invited to 3)

Selected papers

- Honnert, R., Efstathiou, G. A., Beare, R. J., Ito, J., Lock, A., Neggers, R., ... & Zhou, B. (2020). The Atmospheric Boundary Layer and the "Gray Zone" of Turbulence: A critical review. *Journal of Geophysical Research: Atmospheres*, e2019JD030317. G A.
- Couvreur, F., Hourdin, F., Williamson, D., Roehrig, R., Volodina, V., Villefranque, N., et al. (2021). Process-based climate model development harnessing machine learning: I. A calibration tool for parameterization improvement. *Journal of Advances in Modeling Earth Systems*, 13, e2020MS002217. <https://doi.org/10.1029/2020MS002217>
- Humphrey W. Lean, Natalie E. Theeuwes et al. (2024) The hectometric modelling challenge: Gaps in the current state of the art and ways forward towards the implementation of 100-m scale weather and climate models. *Quarterly Journal of the Royal Meteorological Society*, 150(765), 4671–4708. Available from: <https://doi.org/10.1002/qj.4858>