Leonie von Terzi

Personal Details

Year of birth	1993
Nationality	German
Place of residence	Munich
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University Education

09/2019-11/2022 **Ph.D. in Meteorology**, *University of Cologne*, Germany, Subject of Ph.D. Thesis: Investigating ice microphysical processes by combining multi-frequency and polarimetric Doppler radar observations with Lagrangian Monte-Carlo particle modelling

04/2017-09/2019 **M.Sc. Physics of the Earth and Atmosphere, Core area: Meteorology**, *University of Cologne*, Germany, Subject of Master Thesis: How does the snowflake structure affect its scattering properties?

10/2013-02/2017 **B.Sc. Umweltnaturwissenschaften**, *Eberhard-Karls University Tübingen*, Germany, Subject of Bachelor Thesis: Investigation of turbulent fluxes in the vicinity of offshore wind farms.

Employment Record

since 11/2022 **Research Assistant (Post-Doc)**, *Institute of Meteorology, Department of Physics, Ludwig-Maximilians University Munich*, Germany, Topic: Exploring the role of fragmentation of ice particles in clouds by combining Lagrangian particle modelling, multi-frequency and polarimetric radar observations.

08/2019-10/2022 **Research Assistant (Ph.D. candidate)**, *Institute of Geophysics and Meteorology, University of Cologne*, Germany, Topic: Investigating ice microphysical processes with multi-frequency and polarimetric Doppler radar observations and Lagrangian Monte-Carlo particle modelling.

06/2018-07/2019 **Student Assistant**, *Institute of Geophysics and Meteorology, University of Cologne*, Germany, Topic: Remote sensing of precipitation at the Schneefernerhaus, Zugspitze

09/2017 **Student Assistant**, *Leibniz-Institute of Atmospheric-Physics, Department optical soundings and sounding rockets*, Kühlungsborn, Germany, Topic: Modelling the ascent of sounding balloons in order to derive the vertical air motion

10/2014-02/2015 **Student Assistant**, *Eberhard-Karls University Tübingen, Department of Hydrogeology*, Germany, Topic: Analysis of groundwater tracer measurements

Voluntary Professional Work

since 03/2024 **Associate Editor** for the Journal Atmospheric Measurement Techniques

Publications

2025 Seifert, A., Jakub, F., Siewert, C. **von Terzi, L.**, Kneifel, S.; *On the geometry of aggregate snowflakes.* Submitted to Tellus.

2025 **von Terzi, L.**, Ori, D., Kneifel, S.; *A Microwave Scattering Database of Oriented Ice and Snow Particles: Supporting Habit-Dependent Growth Models and Radar Applications (McRadar 1.0.0).* EGUsphere, preprint https://doi.org/10.5194/egusphere-2025-3910

2025 Kötsche, A., Myagkov, A., **von Terzi, L.**, Maahn, M., Ettrichrätz, V., Vogl, T. Ryzhkov, A. Bukovcic, P. Ori, D., Kalesse-Los, H.; *Investigating KDP signatures inside and below the dendritic growth layer with W-band Doppler Radar and in situ snowfall camera.* EGUsphere, preprint doi.org/10.5194/egusphere-2025-734

2023 **von Terzi, L.**; *Investigating ice microphysical processes by combining multi-frequency and polarimetric Doppler radar observations with Lagrangian Monte-Carlo particle modelling.* PhD Thesis, Universität zu Köln, kups.ub.uni-koeln.de/71675/

2022 **von Terzi, L.**, Dias Neto, J., Ori, D., Myagkov, A., and Kneifel, S.; *Ice micro-physical processes in the dendritic growth layer: A statistical analysis combining multi-frequency and polarimetric Doppler cloud radar observations.* Atmospheric Chemistry and Physics, 127.9, p.e2021JD035907, doi.org/10.5194/acp-22-11795-2022

2022 Karrer, M., Dias Neto, J., **von Terzi, L.** and Kneifel, S.; *Melting Behavior of Rimed and Unrimed Snowflakes Investigated With Statistics of Triple-Frequency Doppler Radar Observations.* Journal of Geophysical Research: Atmospheres, 127.9, p.e2021JD035907, doi.org/10.1029/2021JD035907

2021 Kneifel, S., Pospichal, B., **von Terzi, L.**, Zinner, T., Puh, M., Hagen, M., Mayer, B., Löhnert, U. and Crewell, S.; *Multi-year cloud and precipitation statistics observed with remote sensors at the high-altitude Environmental Research Station Schneefernerhaus in the German Alps.* Meteorologische Zeitschrift, 31.1, pp. 69-86, doi.org/10.1127/metz/2021/1099

2021 Ori, D., **von Terzi, L.**, Karrer, M. and Kneifel, S.; *snowScatt 1.0: consistent model of microphysical and scattering properties of rimed and unrimed snowflakes based on the self-similar Rayleigh–Gans approximation.* Geoscientific Model Development, 14.3., pp. 1511-1531, doi.org/10.5194/gmd-14-1511-2021

2021 Mróz, K., Battaglia, A., Kneifel, S., **von Terzi, L.**, Karrer, M. and Ori, D.; *Linking rain into ice microphysics across the melting layer in stratiform rain: a closure study.* Atmospheric Measurement Techniques, 14.1, pp. 511-529, doi.org/10.5194/amt-14-511-2021

2021 Trömel, S., Simmer, C., Blahak, U., Blanke, A., Doktorowski, S., Ewald, F., Frech, M., Gergely, M., Hagen, M., Janjic, T. and Kalesse-Los, H., **von Terzi, L.** and others; *Overview: Fusion of radar polarimetry and numerical atmospheric modelling towards an improved understanding of cloud and precipitation processes.* Atmospheric Chemistry and Physics, 21.23, pp. 17291-17314, doi.org/10.5194/acp-21-17291-2021

2020 Ori, D., Schemann, V., Karrer, M., Dias Neto, J., **von Terzi, L.**, Seifert, A. and Kneifel, S.; *Evaluation of ice particle growth in ICON using statistics of multi-frequency Doppler cloud radar observations.* Quarterly Journal of the Royal Meteorological Society, 146.733, pp. 3830-3849. doi.org/10.1002/qj.3875

2019 Mason, S. L., Hogan, R. J., Westbrook, C. D., Kneifel, S., Moisseev, D. and **von Terzi, L.**; *The importance of particle size distribution and internal structure for triple-frequency radar retrievals of the morphology of snow.* Atmospheric Measurement Techniques, 12.9, pp. 4993-5018, doi.org/10.5194/amt-12-4993-2019

Invited presentations and Keynote talks

09/2025 **5th International Summer Snowfall Workshop**, Reading, England. Keynote talk: Which ice microphysical processes can explain the typical radar signatures in the dendritic growth layer? www.met.reading.ac.uk/ sws04cdw/issw5.html

01/2024 **AMS 104th annual meeting**, Baltimore, USA. Invited oral presentation: Exploring the Role of Fragmentation of Ice Particles by Combining Super-Particle modelling, Laboratory Studies, and Polarimetric Radar Observations. ams.confex.com/ams/104ANNUAL/meetingapp.cgi/Paper/433259

Conferences

03/2025 **Precipitation processes - Estimation and Prediction (PrePEP)**, Bonn, Germany. Oral presentation: Can ice-ice fragmentation explain the typical radar signatures in the dendritic growth layer? An investigation combining polarimetric multi-frequency radar observations wth Lagrangian Monte-Carlo particle modelling. indico.kit.edu/event/4015/

09/2024 **European Radar Conference (ERAD 2024)**, Rome, Italy. Oral presentation: Investigating ice microphysical processes in the dendritic growth layer by combining polarimetric cloud radar observations with Monte-Carlo particle modelling. erad2024.it/

09/2023 **4th International Summer Snowfall Workshop (ISSW4)**, Leipzig, Germany. Oral presentation: Ice microphysical processes in the dendritic growth layer: Can we close current knowledge gaps by combining novel cloud radar observations with Lagrangian Monte-Carlo particle modelling? monsun.meteo.uni-leipzig.de/ drops/issw4/

07/2023 **Workshop on Clouds containing ice particles**, Mainz, Germany. Poster presentation: Ice microphysical processes in the dendritic growth layer: Can we close current knowledge gaps by combining novel cloud radar observations with Lagrangian Monte-Carlo particle modelling? ipa.uni-mainz.de/clouds-containig-ice-particles/

05/2022 **EGU General Assembly**, Vienna, Austria. Oral presentation: Aggregation in the Dendritic Growth Zone: A statistical analysis combining multi-frequency Doppler and polarimetric Doppler cloud radar observations. egu22.eu/

12/2021 **AGU Fall meeting**, online. Poster presentation: Aggregation in the Dendritic Growth Zone: A new view with polarimetric and spectral radar observations. agu.confex.com/agu/fm21/meetingapp.cgi/

08/2021 **3rd International Summer Snowfall Workshop (ISSW3)**, online. Oral presentation: Aggregation in the Dendritic Growth Zone: A new view combining multi-frequency and polarimetric spectral radar observations. met.reading.ac.uk/ sws04cdw/issw3.html

08/2021 **International Conference on Clouds and Precipitation**, online. Oral presentation: A new view on the dendritic growth zone with spectral polarimetric and multi-frequency radar observations. iccp2020.tropmet.res.in/home

08/2019 **2nd international summer snowfall workshop (ISSW2)**,Hyytiälä Finland. Oral presentation: How does the snowflake structure affect its scattering properties?

Language Skills

- German (native)
- English (fluent)

Internships and scholarships

08/2016-09/2016 **DAAD-RISE internship**, Universidade Federal de Santa Catarina, Department of Meteorology, Florianopolis, Brazil, Topic: Analysis of cloud condensation nuclei and aerosol concentrations around Manaus, Brasil.

08/2016-09/2016 **DAAD-Scholarship**, *program: DAAD-RISE worldwide - Research Internships in Science and Engineering*

02/2016-04/2016 **Internship**, *Leibniz-Institute of Atmospheric-Physics*, Kühlungsborn, Germany, Topic: Analysis of sounding balloon data