PrePEP 2025

Precipitation Processes - Estimation and Prediction

Oral program

Day 5		Friday 21 March 2025	
Keynote	8:45-9:15	**Making use of supplementary observations for the development of physical parameterizations** Keynote speaker: Linda Schlemmer (Deutscher Wetterdienst) 1) Linda Schlemmer (Deutscher Wetterdienst) 2) Maike Ahlgrimm (Deutscher Wetterdienst) 3) Sophie Löbel (Deutscher Wetterdienst) 4) Alberto de Lozar (Deutscher Wetterdienst)	
Session 2 A/B		**Enhancing process understanding: model microphysics evaluations, parameterization development and model parameter estimation** Chair 1: Stefan Kneifel, Chair 2: Raphaela Vogel	
10	9:15-9:30	**Linking Ice-Phase Microphysics to Raindrop Characteristics, and Extreme Rainfall in a Deep Convection Event in Eastern China** 1) Kun Zhao* (Nanjing University) 2) Gang Chen (Nanjing Joint Institute for Atmospheric Science) 3) Hao Huang (Nanjing University) 4) Zhengwei Yang (Nanjing University)	63
11	9:30-9:45	**Study on Microphysics of Stratiform Precipitation Based on Dual-Polarization Radar and Airborne Observations** 1) Hao Huang* (Nanjing University) 2) Kun Zhao (Nanjing University) 3) Yinghui Lu (Nanjing University) 4) Xiangfeng Hu (Key Laboratory of Radar Meteorology and State Key Laboratory of Severe Weather)	64
12	9:45-10:00	**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 modeling** 1) Leonie von Terzi* (Meteorological Institute, Ludwig-Maximilians-Universität in Munich) 2) Fabian Jakub (Deutscher Wetterdienst) 3) Stefan Kneifel (Meteorological Institute, Ludwig-Maximilians-Universität in Munich) 4) Davide Ori (Institute of Geophysics and Meteorology, University of Cologne) 5) Axel Seifert (Deutscher Wetterdienst) 6) Christoph Siewert (Deutscher Wetterdienst)	76

13	10:00-10:15	**From Cloud Tops to Surface: Statistical Insights into Stratiform Microphysics over Germany and Türkiye** 1) Julián Alberto Giles* (Institute of Geosciences, Meteorology Section, University of Bonn) 2) Armin Blanke (Institute of Geosciences, Meteorology Section, University of Bonn) 3) Raquel Evaristo (Institute of Geosciences, Meteorology Section, University of Bonn) 4) Silke Troemel (Institute of Geosciences, Meteorology Section, University of Bonn)	79
14	10:15-10:30	**Detailed spectral-bin microphysics simulations of primary ice formation in artificially seeded supercooled stratus clouds** 1) Willi Schimmel* (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 2) Christopher Fuchs (Institute for Atmospheric and Climate Science, ETH Zurich) 3) Jan Henneberger (Institute for Atmospheric and Climate Science, ETH Zurich) 4) Ulrike Lohmann (Institute for Atmospheric and Climate Science, ETH Zurich) 5) Anna Miller (Institute for Atmospheric and Climate Science, ETH Zurich) 6) Kevin Ohneiser (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 7) Nadja Omanovic (Institute for Atmospheric and Climate Science, ETH Zurich) 8) Fabiola Ramelli (Institute for Atmospheric and Climate Science, ETH Zurich) 9) Roland Schrödner (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 10) Patric Seifert (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 11) Fabian Senf (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 12) Robert Spirig (Institute for Atmospheric and Climate Science, ETH Zurich) 13) Jens Stoll (Leibniz Institute for Tropospheric Research (TROPOS), Leipzig) 14) Huiying Zhang (Institute for Atmospheric and Climate Science, ETH Zurich, Zurich)	80
15	10:30-10:45	**Investigation of aerosol effects on precipitation initiation processes in the alternately clean and aerosol-laden environment of New Zealand Aotearoa** 1) Patric Seifert* (Leibniz Institute for Tropospheric Research (TROPOS)) 2) Heike Kalesse-Los (Leipzig University) 3) Martin Radenz (Leibniz Institute for Tropospheric Research (TROPOS)) 4) Andreas Macke (Leibniz Institute for Tropospheric Research (TROPOS)) 5) Adrian McDonald (University of Canterbury) 6) Guy Coulson (The Air Quality Collective)	111
1	10:45-11:00	**Preparing the two-moment microphysical scheme for operational forecasts using radar and satellites** 1) Alberto de Lozar* (Deutscher Wetterdienst) 2) Ulrich Blahak (Deutscher Wetterdienst) 3) Sophie Löbel (Deutscher Wetterdienst) 4) Leonhard Scheck (Deutscher Wetterdienst) 5) Axel Seifert (Deutscher Wetterdienst)	36

Coffee break	11:00-11:30		

Session 2 B		Enhancing Process Understanding: Model parameter estimation Chair 1: Leonie von Terzi, Chair 2: Miklós Szakáll	
2	11:30-11:45	**Exploiting polarimetric radar observations to improve the ICON-D2 2-moment microphyiscs** 1) Julian Steinheuer* (Institute of Geosciences, Meteorology Section, University of Bonn) 2) Ulrich Blahak (Deutscher Wetterdienst) 3) Jana Mendrok (Deutscher Wetterdienst) 4) Velibor Pejcic (Institute of Geosciences, Meteorology Section, University of Bonn) 5) Silke Trömel (Institute of Geosciences, Meteorology Section, University of Bonn) 6) Alberto de Lozar (Deutscher Wetterdienst)	65
3	11:45-12:00	**Predicting Realistic Snow Shape for Improved Polarimetric Radar Simulations** 1) Soumi Dutta* (Institute of Geophysics and Meteorology, University of Cologne) 2) Davide Ori (Institute of Geophysics and Meteorology, University of Cologne) 3) Jana Mendrok (Deutscher Wetterdienst) 4) Christoph Siewert (Deutscher Wetterdienst) 5) Leonie Von Terzi (Meteorological Institute, Ludwig-Maximilians-Universität in Munich) 6) Ulrich Blahak (Deutscher Wetterdienst) 7) Axel Seifert (Deutscher Wetterdienst) 8) Stefan Kneifel (Meteorological Institute, Ludwig-Maximilians-Universität in Munich)	75
5	12:00-12:15	**On the geometry and growth of aggregate snowflakes** 1) Fabian Jakub (Deutscher Wetterdienst) 2) Axel Seifert* (Deutscher Wetterdienst) 3) Christoph Siewert (Deutscher Wetterdienst) 4) Leonie von Terzi (Meteorological Institute, Ludwig-Maximilians-Universität in Munich)	66
5	12:15-12:30	**A gravity-driven inverse cascade controls the size distribution of raindrops** 1) Bruno Andreotti (LPENS) 2) Florian Poydenot* (Universität Hamburg)	52
6	12:30-12:45	**Simulation of convective precipitation in idealized and realistic supercell cases with the Predicted Particle Properties (P3) cloud microphysics scheme in ICON** 1) Marco Wurth* (IMKTRO - KIT) 2) Corinna Hoose (KIT) 3) Jason Milbrandt (Meteorological Research Division, ECCC)	132

Closing Ceremony	12:45-13:00		