Speaker: Franziska Glassmeier (TU Delft)

Date: 06/11/2026 at 13:15 in 4 West 1.7 (Wolfson Lecture Theatre)

Title: Cloud patterns as an opportunity, not an obstacle, for climate science

Abstract:
The complexity of clouds not only puzzles the casual observer but also challenges our understanding of the climate system. The processes that make clouds so hard to capture span a wide range of scales, from the formation of cloud droplets on aerosol particles to shifts between cloud regimes as large-scale conditions change. At intermediate scales, cloud fields organize into mesoscale patterns, and their response to anthropogenic perturbations remains especially hard to capture. In this talk, I will describe nonlinear transitions between distinct mesoscale states and how they arise from the coupling of mesoscale processes with processes at smaller and larger scales. This illustrates how a perspective based on stochastic dynamical systems can complement process-based atmospheric science in understanding multiscale cloud dynamics.