

Oberseminar Topologie: 19.05.2025

**Catrin Mair, TU Darmstadt**

Title: The Role of Condensed Mathematics in Homotopy Theory

Abstract: The  $\infty$ -category  $\mathrm{Cond}(\mathrm{Ani})$  of condensed anima combines the homotopy-theoretic direction of anima with the topological space direction of condensed sets. For example, we can recover the shape of a sufficiently nice topological space from the corresponding condensed anima. My talk will focus on a joint refinement of the étale homotopy type and the pro-étale fundamental group of a scheme, realised as an object in  $\mathrm{Cond}(\mathrm{Ani})$ . This is closely related to work of Barwick, Glasman and Haine on exodromy. I will give an overview of results from my dissertation and an ongoing project jointly with Haine, Holzschuh, Lara and Wolf.