Local compactness does not always imply spatiality Sebastian Melzer (smelzer@nmsu.edu) New Mexico State University

In frame theory, every continuous frame is spatial. Whether this result extends to McKinsey–Tarski (MT) algebras was an open problem in the theory. In this talk, we construct a locally compact sober MT-algebra that is not spatial, thereby resolving the problem in the negative. We also revisit Nöbeling's largely overlooked approach to pointfree topology from the 1950s and compare his separation axioms and local compactness condition to those arising in the MT setting. While most coincide, we show that the MT-versions of Hausdorff and locally compact strictly strengthen Nöbeling's conditions.

This is joint work with Guram Bezhanishvili, Ranjitha Raviprakash, and Anna Laura Suarez.