

On the bitopological nature of Stone Duality

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In this talk I will present a framework in which three similar, but subtly different, Stone-type dualities find their natural place: the original one of Stone 1936 between Boolean algebras and Stone spaces, the one between spatial frames and sober spaces introduced by Ehresmann and Benabou in 1959, and a more recent one between strong proximity lattices and stably compact spaces. The proposed common underlying theory is apparently novel although it is straightforwardly derived from the theory of frames.

The purpose of the talk is to present the puzzles which appear when one studies these dualities more closely, and then to introduce the common framework and its connections to topology, multi-valued logic, and computer science.