# TOPOLOGY SEMINAR

## The Category of Bundle Scenarios of Simplicial Complexes

**By**

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**Abstract:** In this talk, we introduce the sheaf-theoretic framework for contextuality. We then define the category of scenarios based on this framework. The definition of morphisms between scenarios allows us to deal with simulation between empirical models. Next, we extend this framework to define the category of bundle scenarios. A bundle scenario is a map between simplicial complexes that satisfies specific properties, allowing it to behave analogously to a contextuality scenario. The transition from scenarios to bundle scenarios is facilitated by the nerve complex functor, which operates as a monad on simplicial complexes. Finally, we introduce the concept of an empirical model over a bundle scenario.

**Date:** Dec 24, Tuesday, 2024
**Time:** 13:30
**Place:** ZOOM

To request the event link, please send a message to  cihan.okay@bilkent.edu.tr