Online Algebra, Logic, and Topology Seminar
Category Theory Seminar — Abstract
January 13, 2026

On the commuting tensor product of symmetric multicategories and their bimodules

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Speaker: Nicola Gambino
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Date & Time: January 13, 2026 (Tuesday) — 3:00 PM (Coimbra time)
Place: Google Meet

Abstract. We provide a unified treatment of several commuting tensor products considered in the literature, including the tensor product of enriched categories and the Boardman-Vogt tensor product of symmetric multicategories, subsuming work of Elmendorf and Mandell.

We then show how a commuting tensor product extends to bimodules, generalising results of Dwyer and Hess. In particular, we construct a double category of symmetric multicategories, symmetric multifunctors and bimodules and show that it admits a symmetric oplax monoidal structure.

These applications are obtained as instances of a general construction of commuting tensor products on double categories of monads, monad morphisms and bimodules.

(Joint work with Richard Garner and Christina Vasilakopoulou)