CHRISTOPHER EAGLE, University of Victoria

Topology, abstract model theory, and the omitting types theorem

It has long been known that the Omitting Types Theorem of first-order logic is closely related to the Baire Category Theorem of topology. In joint work with Franklin D. Tall, and building on work of R. Knight, we investigate an abstract framework designed to capture the key topological properties of the family of type spaces associated to a classical logic. In this setting we make the connection between Omitting Types and Baire Category precise for more general logics by showing an equivalence between the Omitting Types Theorem and the Baire property for a particular topological space arising as a limit of type spaces. We also define a game version of omitting types based on the Banach-Mazur game. This leads to the question of whether the game version of omitting types is different from the classical one, which will be discussed in Franklin D. Tall's talk.