JEAN-PIERRE MARQUIS, Université de Montréal
Models in pure mathematics: nature and function

Pure mathematics is usually conceived as being made up of axioms, definitions and theorems and, to a lesser extent, some computations. Thus, when philosophers try to understand pure mathematics, they start from that picture, more or less. In this talk, we introduce the idea that there is at least another side to pure mathematics, namely model building and that the latter has some ingredients in common with scientific model building. Thus, we will give some examples from algebraic topology, more specifically homotopy theory, of models in pure mathematics, sketch a classification of types of models, their nature and their role in mathematical knowledge.