Julien Sebag: The Grothendieck ring of varieties.

Introduced in 1964 by A. Grothendieck himself, the Grothendieck ring of varieties is, with the arc scheme, a key ingredient of motivic integration. However, its precise geometric understanding remains an open problem. In 2001, M. Larsen and V. Lunts addressed a precise question which formulates a possible geometric interpretation of this object. In this talk, we will provide a presentation of this question, related problems, and different (positive and negative) elements of answer.