

We will continue on Thursday, **November 28, in M5 at 1pm** by the talk

**J. R. Gonzales**

**Grothendieck categories and their tensor product as filtered colimits**

Abstract:

Grothendieck categories are the  $\mathbf{Ab}$ -enriched Grothendieck topoi. In this talk, we will first show two different ways to obtain a Grothendieck category as a filtered colimit of its representing linear sites: one given by all possible representing linear sites, the other, coarser, given by the representing linear sites induced by the full subcategories of  $\alpha$ -presentable objects, with varying regular cardinal  $\alpha$ . Making use of the latter, we show that the tensor product of Grothendieck categories, introduced in previous joint work with Lowen and Shoikhet, is compatible via this construction with Kelly's  $\alpha$ -cocomplete tensor product. This allows us to translate the functoriality, symmetry and commutativity of Kelly's tensor product to the tensor product of Grothendieck categories.