Tensor categories in positive characteristic

Abstract:

Tensor categories are abelian $k$-linear monoidal categories modelled on the representation categories of affine (super)group schemes over $k$. Deligne gave very succinct intrinsic criteria for a tensor category to be equivalent to such a representation category, over fields $k$ of characteristic zero. These descriptions are known to fail badly in prime characteristics. In this talk, I will present analogues in prime characteristic of these intrinsic criteria. Time permitting, I will comment on the link with a recent conjecture of V. Ostrik which aims to extend Deligne's work in a different direction.