The goal of the lecture is to show the interplay between supersymmetry and tensor categories. Original motivation of supersymmetry comes from physics and topology (a chain complex can be considered as a supercommutative ring and differential as a superderivation.) In supersymmetry we work with $\mathbb{Z}_2$-graded objects and modify usual identities by the sign rule. A systematic approach to this involves the language of tensor categories.

After introduction to supersymmetry and tensor categories I illustrate how both theories enrich each other on the following examples:

1. Theorem of Deligne about supertannakian category.
2. Mixed Schur -Weyl duality and Deligne's category $\text{Rep GL}(t)$.
3. Universal tensor categories via representations of supergroups.