1146-18-86 **Florin Panaite**, **Paul T Schrader** and **Mihai D Staic*** (mstaic@bgsu.edu), Bowling Green, OH. *Hom-Tensor Categories.*

Tensor categories provide the appropriate categorical framework for representations of Hopf algebras. Hom-algebras (coalgebras) are algebraic structures that satisfy a generalized associativity (coassociativity) condition. We introduce Hom-tensor categories and show that they provide the appropriate setting for the category of modules over a hom-bialgebra. In a hom-tensor category the usual associator is replaced by a natural isomorphism $a_{U,V,W} : (U \otimes V) \otimes F(W) \to F(U) \otimes (V \otimes W)$, that satisfies a generalized pentagonal equation. We also introduce the notion of a hom-braided category, and argue that it is the right setting for the category of modules over quasitriangular hom-bialgebras. (Received January 09, 2019)