Hom-Hopf algebras and tensor categories

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In this talk new results linking the constructions of twisting products to the theory of Hom-algebras, Hom-coalgebras and Hom-Hopf algebras will be presented. Hom-Hopf algebras, introduced by Makhlouf and Silvestrov in 2007, had been put into broad context of tensor (monoidal) categories in 2009 by Goyvaerts and Caenepeel. In this talk I will review these and other advances in the theory of hom-Hopf algebras as well as some examples and open problems.