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*Monoidal categories and 3-dimensional TQFTs.*

One of the fundamental achievements of quantum topology is a discovery of deep connections between topology of 3-manifolds and monoidal categories. I will discuss several recent results in this direction including my recent paper with Alexis Virelizier on the connections between the state sum construction of TQFTs from fusion categories and the surgery construction of TQFTs from modular categories. (Received September 10, 2010)