

1058-57-2

Vladimir Turaev*, Indiana University. *From monoidal categories to 3-manifold invariants and back.*

The lecture will explore connections between Topological Quantum Field Theory (TQFT) in dimension 3 and the theory of monoidal categories. We will discuss two main constructions of 3-dimensional TQFTs from categories and outline a connection between them. This circle of questions is motivated by Witten's Chern-Simons TQFT and the Ponzano-Regge model of 3-dimensional quantum gravity. (Received April 22, 2009)