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## TQFT and Surgery

*Tuesday 23 May 2023 09:30 (45 minutes)*

How much manifold topology can a given topological quantum field theory see? In this talk, I will answer this question for “semisimple” TQFTs in even dimensions, a certain class of field theories which includes all “once-extended” even-dimensional field theories, i.e. those which also assign linear categories to corners of codimension 2.

These results suggest to think of TQFTs as appropriately “dual” to manifolds, and lead to classification schemes for TQFTs “dual” to surgery theoretic classifications of manifolds. If time permits, I will explain such a classification of linear once-extended 4-dimensional TQFT in terms of certain group theoretical data and bordism invariants, and comment on higher-dimensional variants.

The first part of this talk is based on joint work with Christopher Schommer-Pries, the second part on ongoing joint work with Christopher Schommer-Pries and Noah Snyder, and with Theo Johnson-Freyd.

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