

Title: Topological aspects of quantum field theory

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Abstract: Quantum field theory is a notoriously complicated subject. Over the past 10 years or so, mathematicians have learned to appreciate that there is an appealing geometric definition for a quantum field theory which is reminiscent of algebraic topology. This definition does not make the subject any easier, but it does make the subject more appealing - especially if you do not know a thing about physics! This talk will have two goals. One is to explain the intuition behind the definition. The second is to discuss examples of topological quantum field theories, which are especially simple and surprisingly important (e.g. for quantum materials and computing).