

# Colloquium

Professor Alexander Voronov

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“The  $n$ -category of Cobordisms and TQFTs”

Wednesday November 19, 2008

4:10-5:00pm

Surge 284

Tea Time is at 3:40pm

Abstract: Since Atiyah and Segal described the notions of Topological Quantum Field Theory (TQFT) and Conformal Field Theory (CFT), mathematicians have been looking for a suitable  $n$ -category framework to describe cobordisms with corners and a more general TQFT involving such cobordisms as a functor from that higher category of cobordisms with corners to a higher category of vector spaces. The problem deals with such standard difficulties of higher category theory as weak vs. strict axioms, coherence, suitable diagrams, etc.: almost every higher category theorist has this problem in the back of her head, but nobody seems to have gotten through to a satisfactory solution. In the talk, I will describe the set up Mark Feshbach and I have found.