



**Speaker:** Pavel Mnev  
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Tuesday, April 22, 2014  
4:00 PM  
129 Hayes-Healy Hall

**Title:** Towards perturbative topological field theory on manifolds with boundary

**Abstract:**

We will explain a hidden algebraic structure on cochains and cohomology of a simplicial complex arising from certain simplicial topological field theory.

Next we will introduce simplicial one-dimensional Chern-Simons theory, as an Atiyah's TFT on triangulated 1-cobordisms, consistent with simplicial aggregations and satisfying a version of Batalin-Vilkovisky master equation.

Finally, we will explain the program of extending our results to more general TFTs in higher dimension, in particular the extension of Batalin-Vilkovisky symplectic homological formalism to TFTs on manifolds with boundary. As a byproduct of the latter construction, one obtains a homological description for certain class of (derived) moduli spaces (e.g. moduli space of local systems) and for their geometric quantization.