Speaker: **Yang, Su-win**
Title: *Zero-anomaly of perturbative Chern-Simons theory for knot invariant*
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Abstract: Following the works of Bar-Natan, Bott and Taubes, Altschuler and Freidel, we know how to use the uni-trivalent graphs and their configuration space integrals to get the beautiful and natural Universal Vassiliev knot invariant in the infinite dimensional algebra of chord diagram (or uni-trivalent grapgs). But, there still have some defect. A correction term coming from the integrals over the space of totally concentrated uni-trivalent graphs should be considered; this is called the anomaly of the perturbative Chern-Simons theory.

We believe the anomaly being equal to zero. We show that, under a vanishing conjecture of the graph homology theory, the anomaly is zero. We shall mention the case of oreder 3 in details. For the case of order 5, the vanishing conjecture can be checked directly.