

**Physics GR8048 Quantum Field Theory II**

**Assignment # 4**

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- 1 IR Divergences in  $\mathcal{N} = 4$   $SU(N)$  Super Yang-Mills Theory**
- 2 Renormalizability of Massive Yang-Mills Theory**
- 3 Unification Scale of  $SU(2)$  and  $SU(3)$  in the Standard Model**