

Renormalization and resolution of singularities

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I will describe the combinatorial features of perturbative renormalization of Feynman integrals using resolutions of singularities in the sense of algebraic geometry, for example the Fulton-MacPherson compactification of configuration spaces. I will also sketch the relation to the Connes-Kreimer Hopf algebras and to other recent advances in the area. This is based on joint work with R. Brunetti and D. Kreimer.