# Periods and motives in quantum field theory

Abstract:

In perturbative Quantum Field theory, physical predictions are obtained by computing the Feynman integrals associated to the graphs in the theory. These integrals are periods of the complement of a certain hypersurface associated to each graph, and, at low orders, are expressible in terms of multiple zeta values. In the first part of the talk I will give an overview of recent work relating Feynman amplitudes to the theory of motives, and in the second I will report on some new developments relating to a conjecture of Kontsevich.