

Mathematics Colloquium

Kurusch Ebrahimi-Fard

Bonn

**Algebraic Relations
for q -Analogues of
Multiple Zeta Values**

Recently, multiple zeta values (MZVs) and their generalizations, multiple polylogarithms, attracted lots of attention in mathematics and theoretical physics. This is especially due to the seminal work of D. Zagier in number theory, and D. Kreimer and collaborators on the relation between knots and Feynman diagrams in perturbative QFT. The algebraic structures, i.e. so-called double shuffle relations, of MZVs are essentially characterized by their representations as iterated sums and integrals, i.e. weight-zero respectively -one Rota-Baxter maps. We will review these concepts and discuss the recently introduced q -analogues of MZVs. Open problems will be briefly addressed at the end of the talk.

Wednesday, April 20

4:00 pm

204 Smith Hall