

2011-12 Colloquium

Tuesday, October 18 in Carver 268 at 4:10 p.m.



Bin Zhang joined the Department of Mathematics at Sichuan University in Chengdu, China in 2006.

After receiving his Ph.D. from Penn State in 2001, Zhang spent time as a post doc at SUNY, and as a visiting scholar at Ohio State, Brown University and Max Planck Institute for Mathematics at Bonn.

His research interests include mathematical physics, algebraic topology and algebraic geometry.

Cone multiple zeta values, Shintani multiple zeta values and their double subdivision

This is an elementary approach to study relations among Shintani multiple zeta values. We introduce (open/closed) cone multiple zeta values as the bridge to explore Shintani multiple zeta values geometrically, and show that they span the same linear spaces over \mathbb{Q} . We then show the linear space of simple fractions (fractions of the form $\frac{1}{L_1 \cdots L_k}$ where L_i 's are linear functions) and the linear space spanned by cones (modulo subdivisions) are isomorphic. Therefore Shintani multiple zeta values carry two sets of relations (double subdivision relations) from subdivision of open and closed cones. This double subdivision relations generalize the double shuffle relations of multiple zeta values. This is joint work with L. Guo and S. Paycha.