

2011-12 Colloquium

Tuesday, October 25 in Carver 268 at 4:10 p.m.



Jianqiang Zhao, associate professor at Eckerd College, has been a visiting researcher with the Institut des Hautes Etudes Scientifiques in France, Max-Planck Institute for Mathematics at Bonn, The Institute for Advanced Study at Princeton, the Morningside Center of Mathematics in Beijing, and the Chern Institute of Mathematics in Tianjin.

Non-standard relations of multiple polylog values at roots of unity

In this talk I'll survey recent results on the relations among the multiple polylog values at roots of unity. The primary tool is the motivic theory of these numbers established by Delign, Racinet and many others. Computations show that the standard relations coming from the regularized double shuffle relations, weight one relations, distribution relations don't provide all the possible relations. However, it is conjectured that mixed pentagon relations and octahedral relations should suffice. Some evidence of this will be given at the end of the talk.