

Abstract:

One of the recurring themes in math/physics interactions is that mathematicians and physicists arrive at the same ingredients in completely different paths/motivations. In this colloquium we will see an example of this phenomenon for elliptic-hypergeometric integral identities. In addition to their intrinsic mathematical interest, they also appear in physics as precision checks of dualities in supersymmetric gauge theories. I will explain how this interplay has led me to use the techniques of supersymmetric gauge theories to find new elliptic-hypergeometric-type solutions to the Yang-Baxter equations.