Abstract

This talk will explore the triple role of a special function known as the b-6j symbol: as the Racah-Wigner symbol in the representation theory of a quantum group, as the fusion matrix governing crossing symmetry in 2D Liouville conformal field theory, and as the fundamental building block for a 3D quantum topological invariant. In particular, we will demonstrat how the pentagon identity manifests in all three perspectives. Based on three recent projects, one joint with Ang, Remy, Zhu, one joint with Ghosal, Remy, Sun, Wu, and one joint with Ming, Liu, Wu, Yang.