1102-17-27 **Paul M Terwilliger***, 480 Lincoln Drive, Madison, WI 53706. *Billiard Arrays and finite-dimensional irreducible $U_q(\mathfrak{sl}_2)$-modules.*

In this talk we will describe the notion of a Billiard Array. This is a triangular array of one-dimensional subspaces of a finite-dimensional vector space, subject to several conditions that specify which sums are direct. We use Billiard Arrays to characterize the finite-dimensional irreducible $U_q(\mathfrak{sl}_2)$-modules, for $q$ not a root of unity. The equitable presentation of $U_q(\mathfrak{sl}_2)$ comes up naturally in this context. (Received June 24, 2014)