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**Paul M Terwilliger\*** ([terwilli@math.wisc.edu](mailto:terwilli@math.wisc.edu)), Department of Mathematics, University of Wisconsin, 480 Lincoln Drive, Madison, WI 53706. *The equitable presentation for the quantum group  $U_q(\mathfrak{g})$  associated with a symmetrizable Kac-Moody algebra  $\mathfrak{g}$ .*

We consider the quantum group  $U_q(\mathfrak{g})$  associated with a symmetrizable Kac-Moody algebra  $\mathfrak{g}$ . We display a presentation for  $U_q(\mathfrak{g})$  that we find attractive; we call this the *equitable* presentation. For  $\mathfrak{g} = \mathfrak{sl}_2$  the equitable presentation has generators  $X^{\pm 1}, Y, Z$  and relations  $XX^{-1} = X^{-1}X = 1$ ,

$$\frac{qXY - q^{-1}YX}{q - q^{-1}} = 1, \quad \frac{qYZ - q^{-1}ZY}{q - q^{-1}} = 1, \quad \frac{qZX - q^{-1}XZ}{q - q^{-1}} = 1.$$

We show how the equitable presentation is naturally obtained using the notion of a tridiagonal pair of linear transformations. (Received August 23, 2005)