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**Chun-Ju Lai\***, Boyd Graduate Studies Research Center, University of Georgia, Athens, GA 30602, and **Daniel K Nakano** and **Ziqing Xiang**. *q-Schur duality of classical type, coordinate coalgebras, and categorification*.

In this talk we investigate the  $q$ -Schur algebras corresponding to the Hecke algebras of classical type, which are closely related to quantum symmetric pair coideal subalgebras for the type  $A$  quantum groups. We present a coordinate coalgebra construction that allows us to realize these  $q$ -Schur algebras as the duals of the  $d$ -th graded components of certain graded coalgebras. Such a concrete realization leads to an isomorphism theorem between  $q$ -Schur algebras of classical type. Furthermore, we obtain a 1-faithful quasi-hereditary cover of the Hecke algebra which identifies the category  $\mathcal{O}$  for certain rational Cherednik algebra. A potential categorification of our coordinate coalgebras will be discussed. (Received January 17, 2020)