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**Tom Braden** and **Carl Mautner\*** (mautner@math.ucr.edu). *Matroidal Schur Algebras.*

Let  $k$  be a field. We associate a quasi-hereditary algebra  $R(M)$  over  $k$  to any matroid  $M$ , such that the Ringel dual of  $R(M)$  is  $R(M^*)$ , where  $M^*$  is the dual matroid. The representation theory of this algebra is closely related to certain bilinear forms introduced by Schechtman-Varchenko and Brylawski-Varchenko. Like the classical Schur algebras, our algebras are semisimple over fields of characteristic zero. In this generic setting, our algebras can be used to categorify a formula of Kook-Reiner-Stanton. Our work is motivated by the geometry of symplectic resolutions and, in particular, hypertoric varieties. (Received January 17, 2017)