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Alex Andrew Chandler* (achand1@ncsu.edu), NC 27606. *A Categorification of the Vandermonde Determinant*. Preliminary report.

In the spirit of Bar Natan's construction of Khovanov homology, we give a categorification of (evaluations of) the Vandermonde determinant. As an input we take a knot diagram, and a family of special Frobenius algebras (one for each crossing) corresponding to the variables. We arrange these in a commutative diagram coming from the Bruhat order on the symmetric group, which plays the role of the cube of resolutions in Khovanov homology. From this commutative diagram we extract a homology theory. In case that the diagram is the alternating 2-strand braid diagram of the $(2, n)$ torus link, the Euler characteristic of this homology theory is the Vandermonde determinant. (Received February 02, 2018)