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**Nicolle Gonzalez\*** (nicolle@math.ucla.edu) and **Matt Hogancamp**. *A skein theoretic Carlsson-Mellit algebra*. Preliminary report.

The Carlsson-Mellit algebra, or  $A_{q,t}$  algebra, originally arose in the proof of the celebrated Shuffle conjecture. This algebra, built from Hecke algebra generators and a family of raising and lowering operators, has a particularly interesting representation, known as the polynomial representation, on which its action is given by complicated plethystic operations. In this talk I will discuss how this algebra (specialized at  $t = q^{-1}$ ) and its polynomial representation can be formulated skein theoretically, as certain braids on an annulus, and consequently categorified. This is joint work with Matt Hogancamp. (Received August 29, 2020)