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**Bogdan Ion\*** (bion@pitt.edu) and **Dongyu Wu**. *Stable Daha and applications*. Preliminary report.

I will report on my joint work with Dongyu Wu on the construction of stable limits of the family of  $GL_n$  double affine Hecke algebras and their defining representations (the almost symmetric module). One of the limits is related to type A Macdonald theory, the other gives rise to the double Dyck path algebra and its defining representation. The double Dyck path algebra was introduced by Carlsson and Mellit as the key character in their proof of the compositional shuffle conjecture and later Mellit used it to give a proof of the rational compositional shuffle conjecture. A new commutative family of operators arises from the latter stable limit. I will describe their spectrum, explain how it allows us to construct an action of the stable spherical daha on the almost symmetric module, and comment on the relation of this action to compositional shuffle-type results. (Received January 19, 2022)