

# An infinite-dimensional associahedron

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A very interesting construction of the linearly oriented type  $A_n$  associahedron was recently given by Arkani-Hamed, Bai, He, and Yan. It was shown by Bazier-Matte, Chapelier, Douville, Mousavand, Yıldırım, and me that this construction could be extended to all Dynkin quivers. I will discuss how to define an infinite-dimensional associahedron by a similar construction in which the difference equations that define finite type associahedra are replaced with partial differential equations. (Let me emphasize that the partial differential equations are very easy to solve.)

This is based on joint work with Nima Arkani-Hamed, Song He, and Giulio Salvatori.