On string quasitoric manifolds and their underlying polytopes

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This talk mainly aims to give combinatorial characterizations and topological descriptions of quasitoric manifolds with string property. We provide a necessary and sufficient condition for a simple polytope in dimension 2 and 3 to be realizable as the orbit polytope of a string quasitoric manifold. In particular, a complete description of string quasitoric manifolds over prisms is obtained. On the other hand, we characterize string quasitoric manifolds over n-dimensional simple polytopes with no more than $2n+2$ facets. Further results are available when the orbit polytope is the connected sum of a cube and another simple polytope. If time permits, a real analogue concerning small cover will be briefly discussed.