1139-05-610   **Karola Mészáros**, Ithaca, NY 14850, and **Alejandro H. Morales***,
ahmorales@math.umass.edu, Amherst, MA 01003. *Computing volumes of flow polytopes and Kostant partition functions.*

Flow polytopes of graphs is a rich family of polytopes that include the Pitman-Stanley polytope and the Chan-Robbins-Yuen polytope. Their lattice points are counted by Kostant's vector partition function from Lie theory. In the early 2000s, Postnikov-Stanley and Baldoni-Vergne gave remarkable formulas for their volume and lattice points using the Elliott-MacMahon algorithm and residue computations respectively.

In this talk we will describe the combinatorics of these formulas, including a proof using subdivisions. We will illustrate the subdivision with known and new examples of flow polytopes with surprising volumes.

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