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Caroline Klivans* (cjk@math.uchicago.edu), 1100 E. 58th St., Chicago, IL 60637. *The Bergman Complex of a Matroid and Phylogenetic Trees.*

We associate to any matroid a polyhedral complex, called the Bergman complex. Bergman complexes arise in tropical algebraic geometry and somewhat surprisingly as the space of phylogenetic trees. I will talk about the combinatorics and topology of this complex. In particular, using the Bergman complex we show that the link of the origin of the space of phylogenetic trees is homeomorphic to the order complex of the proper part of the partition lattice. This provides a new explanation and a strengthening for the known result that these two simplicial complexes are homotopy equivalent.

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