

I start with giving a down-to-earth introduction to toric varieties and how line bundles on toric varieties are classified by piecewise linear functions. The goal of the talk is to address combinatorial data for classifying vector bundles on toric varieties. Klyachko famously classified (torus equivariant) vector bundles on a toric variety by certain combinatorial data of filtrations (in a vector space) associated to the rays in the fan. We give an interpretation of Klyachko's data as an "valuation" map from a vector space to the semialgebra of piecewise linear functions. This is a joint work with Chris Manon.