

## **Tropical schemes**

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Tropical geometry takes a variety  $Y$  to a polyhedral complex  $\text{trop}(Y)$  that records some information about  $Y$  and its compactifications. In the case that  $Y$  is a hyperplane arrangement complement  $P^n \setminus A$ , this tropical variety  $\text{trop}(Y)$  is determined by the matroid of  $A$ , or more generally the valuated matroid of  $A$ . I will describe how to tropicalize a subscheme (instead of subvariety) of projective space, and more generally give a definition of a tropical subscheme of tropical projective space. This definition again uses the theory of (valuated) matroids. This is joint work with Felipe Rincon.