

# Topology, Arithmetic, & Dynamics Seminar

Tropical geometry of complexity 1  $T$ -varieties

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An affine complexity  $c$   $T$ -variety is a normal affine algebraic variety of dimension  $d$  equipped with an action by an algebraic torus of dimension  $d - c$ . For example, toric varieties are instances of complexity 0  $T$ -varieties. In fact, one of the motivating reasons for studying these spaces is to generalize the many wonderful combinatorial gadgets one uses in toric geometry to  $T$  varieties of higher complexity. After explaining some of the basics of this theory I will report on some recent results with Nate Ilten, where we show that affine complexity 1  $T$ -varieties always have a "well-poised" embedding into some higher affine space. In particular, I will explain how this embedding has interesting combinatorial properties, all expressed in the language of tropical geometry.

Date: **Friday, February 17, 2017**

Time: **2:30-3:20 pm**

Place: **4106 Exploratory Hall**

For special accommodations, please contact Sean Lawton via email at [slawton3@gmu.edu](mailto:slawton3@gmu.edu).