1030-52-172   **Federico Ardila*** (`federico@math.sfsu.edu`), Department of Mathematics, San Francisco State University, 1600 Holloway Avenue, San Francisco, CA , and **Mike Develin** (`develin@post.harvard.edu`), American Institute of Mathematics, 360 Portage Ave., Palo Alto, CA. *Tropical hyperplane arrangements and oriented matroids.*

We study the combinatorial properties of a tropical hyperplane arrangement. We define tropical oriented matroids, and prove that they share many of the properties of ordinary oriented matroids. We show that a tropical oriented matroid determines a subdivision of a product of two simplices, and conjecture that this correspondence is a bijection. We present several open problems. (Received July 31, 2007)