1046-14-1410   **Tristram C Bogart*** (`tcbogart@gmail.com`), Department of Mathematics and Statistics, Room 310, Jeffery Hall, Queen's University, Kingston, Ontario K7L 3N6, Canada. *A tropical approach to rational curves on general hypersurfaces in $\mathbb{P}^3$.*

In the 1980's, Herbert Clemens made a series of conjectures about the dimensions of spaces of rational curves on general complex hypersurfaces in projective space. The most general of these conjectures is that there are only finitely many rational curves of degree d on a general quintic threefold in $\mathbb{P}^4$. He proved that a general hypersurface of degree $2n - 1$ in $\mathbb{P}^n$ contains no rational curves, a statement generalized and strengthened by Geng Xu and by Claire Voisin.

In ongoing joint work with Ethan Cotterill, we approach these questions via tropical geometry. Since tropicalization preserves inclusion, the tropical analogue of Clemens' theorem would imply the original theorem. Magnus Vigeland recently produced a family of tropical surfaces in $\mathbb{R}^3$ of degree d that contain no tropical lines when d is at least four. Our current result is that Vigeland's surfaces contain no tropical rational curves that are generic in a certain sense. (Received September 15, 2008)