1100-92-153 **Luke R Anderson*** (luke.r.anderson@ttu.edu), 4432 Haner Dr, Odessa, TX 79762. *Modeling tumor-CD4+-Cytokine Interactions with Treatment.*

Many cancerous tumors produce recognizable antigens which can incur an antitumor response from an adaptive immune system. Until recently, most cancer immunotherapy studies have focused on the CD8+ CTLs that recognize MHC class 1 molecules and their antigens on tumor cells. Recent studies have shown that cancer cells are beginning to evolve and avoid recognition by CD8+ CTLs. Because of this evolution; focus has begun to shift to CD4+ T cells. Recent studies show that CD4+ Th1 and Th2 cells can act independently of CD8+ CTLs to eradicate tumor cells. A set of three equations were constructed to model the relationship between cancer cells, CD4+ T cells, and two important cytokines (IL-4 and Th2). It has been found that without treatment even a small tumor cannot be eliminated. However, with cytokine treatment it may be possible to shrink, stabilize, or eliminate a tumor depending on its antigenicity. (Received February 06, 2014)