1145-92-943 **Ami Radunskaya*** (aer04747@pomona.edu), Math Dept. Pomona College, 610 N. College Ave., Claremont, CA 91711, and **Joshua Sack**. *How do immune cells kill cancer cells?*

The immune system is able to fight cancer by mustering and training an army of effector "killer" cells. There are several key steps to this process: recognition of the cancer cells, activating the effector cells, trafficking of the immune cells to the site of the tumor, and the killing itself. We have created a cell-based fixed-lattice model that simulates immune cell and tumor cell interaction involving MHC recognition, and two killing mechanisms. We are motivated by open questions about the mechanisms behind experimentally observed kill rates of tumor cells by different types of effector cells. These mechanisms play a big role in the effectiveness of many cancer immunotherapies. Results from model simulations, along with theories developed by ecologists, can help to illuminate which mechanisms are at work in different conditions. (Received September 17, 2018)