Trachette Jackson*, University of Michigan, Department of Mathematics, 530 Church St., Ann Arbor, MI 48109. Mathematical models of tumor vessel formation and targeted therapies that attack the vascular supply.

Cancer is the collective name given to an entire class of diseases characterized by rapid, uncontrolled cell growth leading to the formation of tumors. To ensure its continued growth, a tumor must acquire a continuous supply of nutrients and the ability to export metabolic waste. It does this by recruiting new blood vessels from the nearby existing vasculature, a process known as tumor-induced angiogenesis. Angiogenesis provides the necessary blood supply for the growth of solid tumors beyond a few millimeters in diameter. A recent advancement in cancer treatment has been combining traditional chemotherapeutic agents with drugs that interfere with a tumor’s ability to stimulate blood vessel formation. In this talk, we explore mathematical models of tumor-induced blood vessel formation and discuss related treatment strategies. (Received August 04, 2014)