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**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)