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Trachette L. Jackson* (tjacks@umich.edu), Department of Mathematics, University of Michigan, 530 Church Street, Ann Arbor, MI 48109-1043. *The Evolution of Spatio-Temporal Models of Tumor Angiogenesis.*

Motility – random, directed and collective – is a fundamental property of cells. Coordinated motility of endothelial cells that reside on the inner surface of blood vessels leads to a critical bifurcation point in cancer progression: tumor angiogenesis. Successful angiogenesis is a consequence of integration across multiple levels of biological organization, and several temporal and spatial scales. A major challenge facing the cancer research community is to integrate known information in a way that improves our understanding of the mechanisms driving tumor angiogenesis and that will advance efforts aimed at the development of new therapies for treating cancer. In this talk, the evolution of spatio-temporal mathematical models of tumor angiogenesis will be explored and recent advances will be highlighted. (Received September 08, 2010)