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C. MaLyn Lawhorn* (lawhornc2@winthrop.edu), 251 E Jones St, Blacksburg, SC 29702, and **Zachary Abernathy** and **Kristen Abernathy**. *Using Partial Differential Equations to Model Tumor Growth*.

Malignant tumors are a collection of cancerous cells that form in various parts of the body. Because a tumor can grow almost anywhere in the body and become particularly problematic after angiogenesis occurs, it is of interest to understand the spatial growth of the tumor. Using an existing PDE model by McGillan et al., we incorporate a stem cell population and explore the behavior of the tumor cells and cancer stem cells as they invade healthy tissue. We also investigate the stability of stationary solutions and numerically demonstrate four different tumor states. (Received September 20, 2016)