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**Kristen Abernathy\*** ([abernathyk@winthrop.edu](mailto:abernathyk@winthrop.edu)). *Analysis of Steady State Solutions in an Abstract Model of Glioblastoma Multiforme under Immunotherapy Treatment*. Preliminary report.

In this presentation, we extend the work of Kogan, Forys, and Kronik (Kogan, et al. 2008) to incorporate the cancer stem cell hypothesis in the study of the treatment of Glioblastoma Multiforme by immunotherapy. We present an abstract model of nonlinear ordinary differential equations and show existence of coexistence, recurrence, and cure steady states. We analyze the stability of each steady state and present sufficiency conditions on treatment parameters to ensure a globally asymptotically stable cure state. We conclude with a biologically accurate example of our theory. (Received September 15, 2014)