

1086-03-2791 **Michael Clare Manning*** (mcmanni3@asu.edu), 10518 South Greenfield Rd, Gilbert, AZ 85234.
Modeling Glioblastoma Growth Using a Poisson Process. Preliminary report.

In this talk we consider stochastic models of Glioblastoma Multiforme brain tumors. We first look at a model by K. Swanson et al., which describes the dynamics as random diffusion plus deterministic logistic growth. We introduce a stochastic component in the logistic growth in the form of a random growth rate defined by a Poisson process. We show that this stochastic logistic growth model leads to a more accurate evaluation of the tumor growth compared its deterministic counterpart. We also discuss future plans to incorporate individual patient data into our model, in collaboration with a local hospital. (Received September 25, 2012)