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**Sarah El Jamous\*** ([seljamou@asu.edu](mailto:seljamou@asu.edu)), Arizona State University, 900 S Palm Walk, Tempe, AZ 85281. *Cancer modeling using agent-based models*. Preliminary report.

In this talk, we will discuss how to model glioma cells which are responsive for brain tumor. We observe experimentally that these cells have different shapes and this might lead to different macroscopic behaviors (e.g. stream formation, diffusion coefficient). To explore how cancer cells manage to spread throughout the organism, we use an agent-based model describing the essential features of the cell (e.g. motility, cell-cell interaction). Depending on the shape of the cells, the stream formation can increase and influence the overall tumor growth. We compute a phase diagram of the dynamics as we change various parameters and characterize the emerging structures. (Received September 25, 2018)