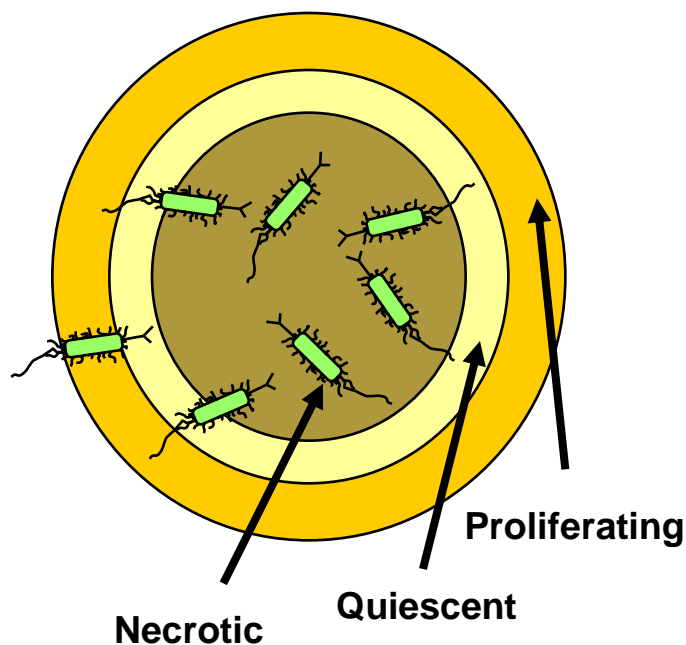


## Targeted Delivery of Therapeutic Agents to Tumors using *Salmonella typhimurium*

IGERT Fellow Adam St. Jean

PI: Prof. Neil S. Forbes (UMass Chemical Engineering)



Heterogeneous microenvironments within tumors cause ineffective drug delivery to cancer cells. Using the targeting abilities of bacteria, specifically, *S. typhimurium*, we overcome this problem. The bacteria accumulate within specified tumor regions and are used as micro-factories to produce therapeutic agents.

Additionally, bacteria can be programmed to secrete therapeutic agents when exposed to external stimuli (i.e. radiation). Combining this with the targeting properties, we hope to create a spatially and temporally controlled tool that clinicians can use to increase patient survival.

Representative graphic of tumor microenvironments and bacterial accumulation