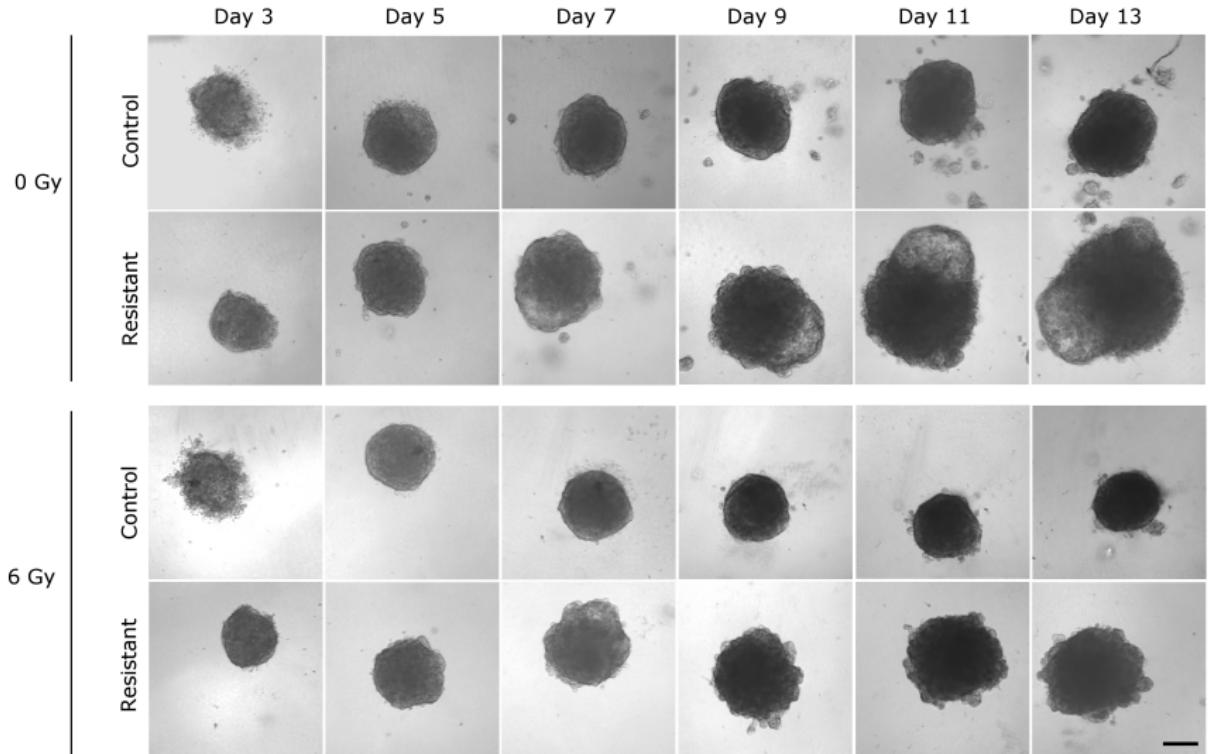
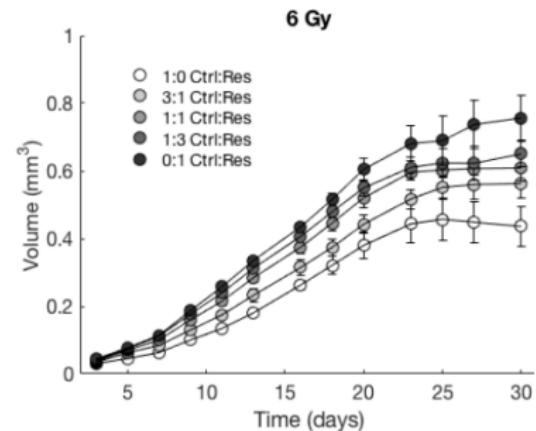
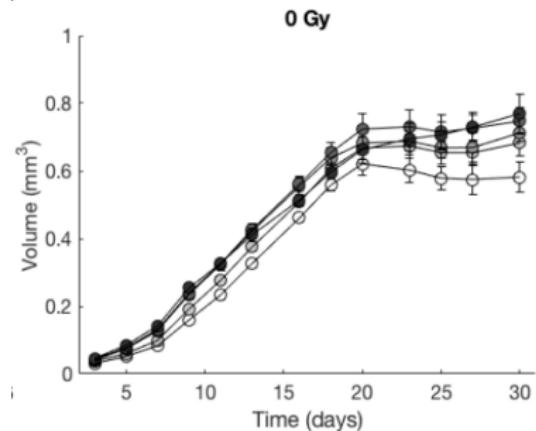
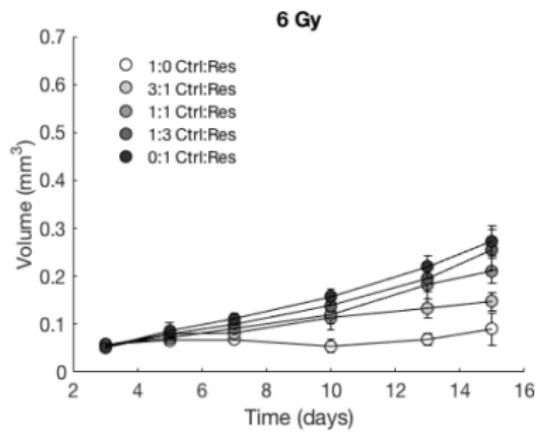
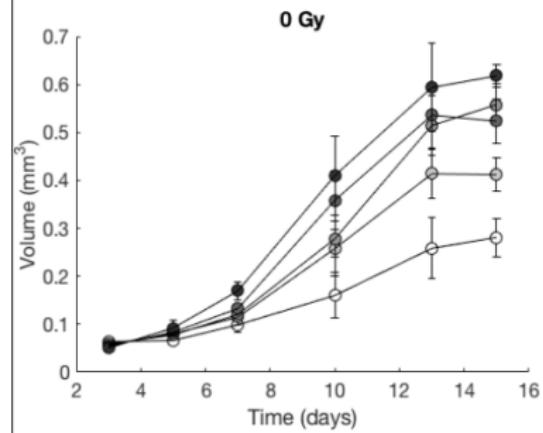


# Tumour spheroids



# Experimental results



## Model: Lotka-Volterra

$$\frac{dV_C}{dt} = V_C \left[ r_C \left( 1 - \frac{V_C}{K_C} \right) - \lambda_R V_R \right] \quad (1)$$

$$\frac{dV_R}{dt} = V_R \left[ r_R \left( 1 - \frac{V_R}{K_R} \right) - \lambda_C V_C \right] \quad (2)$$

# Inference

Using first fake data, then real:

- Maximum likelihood.
- Approximate Bayesian Computation.
- Full Bayesian inference.
- Hierarchical Bayesian model.

# Extensions

- Cellular automaton model of homogeneous tumour cell growth.
- PDE models.
- Surrogate models.