

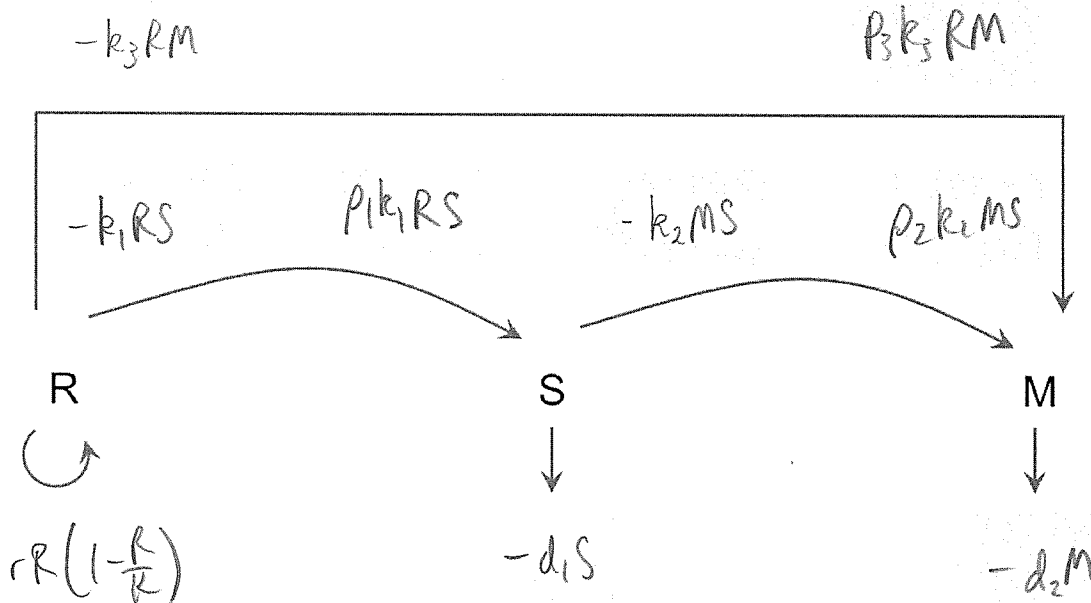
# APRIL 26 HANDS-ON WORKSHOPS

## Concurrent morning workshop #1: An Introduction to Mathematical Modelling Predator-Prey Model Construction

Chart of growth / interaction functions for a predator and a prey.

	Prey, X	Predator, Y
Predation	$-k_1XY$	$\rho_1 k_1XY$
Logistic growth	$rX(1 - X/K)$	—
Natural death	—	$-d_1Y$

Interaction web for Rat, Snake and Mongoose



Dynamical System:

$$\frac{dR}{dt} = rR\left(1 - \frac{R}{K}\right) - k_1RS - k_3RM$$

$$\frac{dS}{dt} = \rho_1 k_1RS - k_2MS - d_1S$$

$$\frac{dM}{dt} = \rho_3 k_3RM + \rho_2 k_2MS - d_2M$$