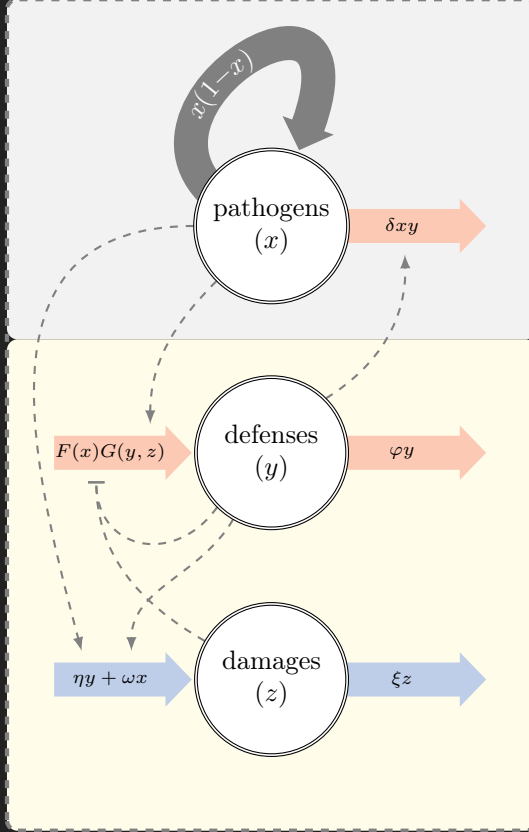


Variables

t	time (as pathogen generations)
x	pathogen load (as fraction of carrying capacity)
y	amount of defenses (arbitrary units)
z	damages (arbitrary units)

Variable states

(x_0, y_0, z_0)	the initial state of the infection
$(\tilde{x}, \tilde{y}, \tilde{z})$	one of the possible equilibrium states of the infection, with $\tilde{x} > 0$
$(\tilde{y}_h, \tilde{z}_h)$	the homeostatic state, i.e. the equilibrium state with no infection ($x = 0$)



Resistance parameters

δ	rate of bacterial destruction per unit	0.05
	amount of defenses	
φ	defenses rate of decay	0.01
<i>Positive regulation of defenses production:</i> $F(x) = \gamma + \alpha x^u / (1 + \beta x^v)$		
γ	maximum constitutive defense production	1.8
α	activation of defense production	12
β	saturation of defense activation	1
u	shape parameter of activation	0.1
v	shape parameter of saturation	0.1
<i>Negative regulation of defenses production:</i> $G(y, z) = 1 / (1 + y^k + \psi z^l)$		
k	shape parameter of down-regulation	0.5
ψ	strength of damage effect	2
l	shape parameter of damage effect	0.75

Tolerance parameters

ω	rate of damages production per unit of pathogen load	10
η	rate of damages production per unit amount of defense	0.01
ξ	rate of damages repair	0.01
z_d	amount of damages above which the host will die	500